

BIGHORN NATIONAL FOREST

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Revised Land and Resource Management Plan

# Geographic Areas

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## Introduction

A geographic area is a piece of land, 175,000 acres or smaller, that is used as an intermediate scale analysis unit between the site-specific project scale and the Forestwide scale. Geographic areas link the forest plan to management at a landscape or watershed scale which often relates better to ecosystem processes and social expectations. They are also the focal point for implementing forest plan decisions in collaboration with other land managers. Grouping management area prescriptions at the geographic area level ties land management activities to the landscape scale, providing overall management emphasis in the area.

## Desired Condition

Geographic area desired conditions are based on the unique combination of ecological and social values inherent to the defined area. These descriptions were largely obtained from the forestwide and geographic area assessments conducted as part of the revision. These descriptions, combined with the management area prescriptions from the preferred alternative, provide a framework for the desired condition of each geographic area. Application of the management area prescriptions and associated standards and guidelines, and forestwide direction, will move specific portions of each geographic area toward the desired condition. The Forest recognized that each of these geographic areas is unique in their amount and types of forested lands, management area mix, and suitable timber lands. By focusing in on the smaller scale geographic areas, we plan to create a better tool for site-specific implementation. All vegetation data displayed is from 2002 Common Vegetation Unit.

## Description of Geographic Areas

Nine geographic areas have been established on the Bighorn National Forest. They vary in size from 60,891 acres to 174,300 acres. The location of each geographic area is shown on Map 3-1. The following individual descriptions are displayed beginning with the Clear Creek/Crazy Woman Creek area, then moving clockwise around the Forest. The administrative record contains additional analyses of the physical attributes (vegetation, watershed) of each area.

GEOGRAPHIC AREAS

Map 3-1. Location of geographic areas on the Bighorn National Forest.



## **Clear Creek/Crazy Woman Creek Geographic Area**

### **Unique Features**

Approximately 154,865 acres occur in this area, with all streams being tributary to the Powder River basin. Located in the southeast corner of the Forest and administered by the Powder River Ranger District, it is well roaded for motorized access purposes. Highway 16 crosses through it; Hazelton Road and the Crazy Woman canyon road are other main access corridors. Historically, this geographic area has had more road construction and timber harvest than any geographic area on the Forest, with impacts originating in the tie hack era. The area was the subject of the first and second landscape assessments conducted on the Forest in support of allotment management plan revisions (Clear/Crazy Assessment 1998). It is also the subject of a recently completed travel management planning effort (Clear/Crazy Designated Motorized Trail System Environmental Assessment), due to higher road densities and previous off-road travel opportunities.

Unique features include the rock formations on the edge of the Forest, typically viewed from the Crazy Woman Canyon road. Scenic vistas into the Cloud Peak Wilderness and several open parks along Highway 16 led to the designation of Highway 16 as a Scenic Byway. Past timber harvests along the highway were conducted to improve viewing opportunities. Summer traffic volume is high as many visitors to the Yellowstone area select this route.

The area includes primary access points to the Cloud Peak Wilderness, including Circle Park and Hunter Park. Tie Hack Reservoir, constructed in 1998, is a popular recreation destination, along with several other campgrounds, picnic areas, and trailheads. The Paradise Guest Ranch, Pines Lodge, and South Fork Inn are commercial tourism destinations. Dispersed recreation, primarily camping, is concentrated in the many park areas within the area. There are five small private inholdings with summer home cabins on them, as well as several additional summer home groups. Private land developments, primarily cabins, occur just off the National Forest and would likely continue to expand in the Billy Creek, Hazelton, and Dullknife areas. There are both motorized and nonmotorized winter recreation opportunities in the area.

The historic Sheep Mountain fire lookout shows past emphasis of forest management and provides a beautiful overlook of the area. Active timber sales continue within the area, primarily in lodgepole pine; past clearcuts are being successfully regenerated to provide vegetative diversity. The Lost Fire of 1988 and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process.

Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Past tie hack disturbances to riparian areas have largely healed. Moose and elk are common big game species in the area. They are common

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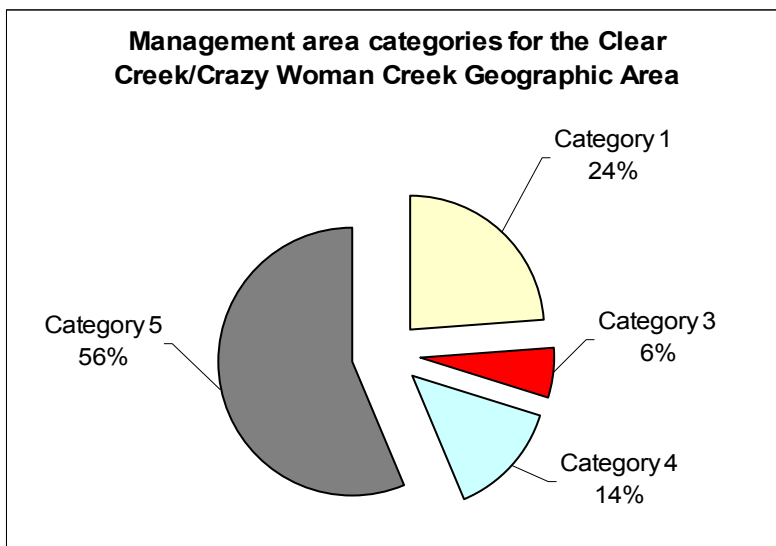
enough that their impact on willows is a concern. Big game winter range is a noted component of the area at lower elevations near the Forest Boundary, particularly along Hunter Mesa. Fisheries are non-native and stocked in streams and mountain lakes. Beaver occur in main stream zones, and the Forest has plans to expand their distribution. Old growth lodgepole pine is unique in the Powder River drainage.

Mineral developments have largely only been for gravel opportunities in support of Highway 16 construction/reconstruction. The area does contain some of the only potential oil and gas leasing areas; however, no development is anticipated.

The Forest maintains the Hunter Creek work center where summer employees are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Clear Creek/Crazy Woman Creek Geographic Area are displayed in the following figure.

Figure 3-1. Clear Creek/Crazy Woman management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities will continue to be managed corresponding to past emphasis on motorized and nonmotorized pursuits (e.g., motorized trails and wilderness). Prior and currently proposed travel management decisions (e.g., Clear/Crazy Designated Motorized Trail System EA) would continue to be implemented, including the possibility of a new ATV trail adjacent to Highway 16. This new trail will provide connections for all motorized routes within the area and the potential for connection with the Tensleep area.

Significant deviations will not occur from the existing Recreation Opportunity Spectrum (ROS) as defined in the 1998 inventory. Areas outside the Cloud Peak Wilderness will

feature the semi-primitive motorized setting and areas within the wilderness will be managed for a primitive or semi-primitive motorized setting.

Powder River Pass will offer both a motorized (western portion) and nonmotorized (eastern portion) winter setting, and will continue to be a major winter destination for recreationists. Signing and education efforts supplemented with enforcement have effectively implemented the motorized/nonmotorized special order for this area. Existing condition. The area will continue to be popular with snowmobilers and backcountry skiers.

There is some potential for interpretive trail construction or designation along the Highway 16 corridor.

There would likely be minimal deviations from the existing scenic integrity, and desired landscape character and focal points will be developed during future project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale. The scenic byway will continue to provide a high quality viewing experience.

Twenty-one percent of the Clear Creek/Crazy Woman Creek area is included in the Cloud Peak Wilderness. Adding inventoried roadless and designated wilderness, about 42% of the area is undeveloped. Inventoried Roadless Areas (2005 Inventory) included in the Clear Creek/Crazy Woman Creek area are shown in the map in Appendix A of the Revised Plan. Minimal intrusions are anticipated in Inventoried Roadless Areas (IRAs), except where suited management prescriptions occur for timber emphasis, as described in the Final Environmental Impact Statement (FEIS).

Areas to focus dispersed site management efforts for closure or hardening areas (per forest-wide standard and guideline) will include Sourdough, Elgin Park, Crazy Woman Canyon areas, along with a special emphasis on the municipal watershed of Clear Creek. The Sourdough area is the most heavily used dispersed recreation area in the watershed. The continued coordination with the City of Buffalo regarding management of the private land containing Tie Hack reservoir will be an ongoing need.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. Three campgrounds will be priorities within this area for improvements in order to better meet accessibility standards – South Fork, Crazy Woman, and Doyle. The North Fork Picnic ground will also be a priority for accessibility-related improvements.

**Wildlife:** For elk as Management Indicator Species (MIS), the area contains both existing and potential elk security habitat. Refer to Appendix A of the Revised Plan for the current levels and map. The Doyle Creek area provides the most extensive amounts of this type of habitat, and is a critical link to managing for elk distribution with adjoining private lands. In the near future, the areas of the Lost Fire from 1988 will be considered security habitat once trees reach a sufficient height. Opportunities to improve elk security will be possible with most projects due to the current higher road densities that occur, and the 5.4 and 3.5



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areas in this watershed will be prime sites to enhance this type of habitat. The fringes of the Forest near Hunter Mesa and Grouse Mountain also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed, with releases having occurred in 2003 and additional releases planned in Keno Creek, Muddy Creek, Hesse Creek, and other high priority sites. The small areas of naturally occurring sagebrush for Brewer's sparrow are of minimal priority for management.

Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. Retention of the old growth conifer in the Powder River area will be important for this geographic area in the short term. Refer to the old growth emphasis areas map in Appendix A of the Revised Plan. With regards to Threatened, Endangered, and Sensitive (TES) species and local concern species, refer to Wyoming Natural Diversity Database and Fauna<sup>1</sup> data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** This geographic area includes approximately 244 mi<sup>2</sup> of Forest Service lands in the Clear Creek, Crazy Woman, and North Fork Powder River drainages. Within these three drainages, there is a relatively high density of level 2 roads (0.6 mi/mi<sup>2</sup>) compared to the other geographic areas. A higher road density is assumed to pose a higher risk to watershed health than other road levels, through sedimentation, hydrologic connectivity, and drainage efficiency. There are also a larger number of stream crossings (1.4 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed. Project level planning and implementation are expected to reduce the impacts of roads and stream crossings within the geographic area.

Yellowstone cutthroat trout and mountain sucker are not expected to be found in the geographic area, although other native species may be transient visitors at the lower elevations near the Forest boundary. These drainages are not within the identified historic range for Yellowstone cutthroat trout and no additional actions have been identified for active management of other native species. The geographic area will continue to provide many opportunities for recreational fishing for non-native desirable fish species.

Municipal watersheds in this geographic area include sub-watersheds of the Clear Creek drainage, which supply the City of Buffalo (see map in Appendix A of the Revised Plan). Water quality will be maintained with the application of Best Management Practices (BMPs) at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b)

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<sup>1</sup> Fauna is a component of the Forest Service Natural Resource Information System (NRIS) that documents the occurrence of terrestrial wildlife on National Forests and is linked to other federal, state, and organization databases on wildlife species

report or 303(d) list.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescription areas. Areas that may experience more epidemic levels of loss to insects and disease would include the wilderness and possibly the steep faces on the Forest boundary. Due to the prevalence of suited acres in the watershed and smaller management areas, management against epidemic levels of insect and disease would likely occur in all prescriptions except the areas adjoining the more primitive Rock Creek area.

Wildland Fire Use (WFU) would be encouraged in the wilderness within limitations presented by the ability to adequately protect values and investments in the area. Continuity of fuels between the wilderness and values or investments may make application of wildland fire use infeasible. There may be “fringe” opportunities for WFU in the winter range prescription (5.41) leading into the Rock Creek area, or in the 1.32 area near Powder River Pass. There would not likely be opportunities for WFU elsewhere in the watershed due to recreation developments, and existing timber stand investments. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Perimeter and direct control are likely to be more appropriate responses to wildland fires elsewhere in the watershed. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following figures for the primary forested covertypes. Forestwide descriptions according to suited and non-suited lands were described in the Desired Future Condition (DFC) in Chapter 1. Previous pole harvesting opportunities will be continued in the area. This area was prioritized for an old growth inventory, due to a previous inventory using an outdated approach. The Powder River area contains high quality lodgepole old growth and is managed to continue this.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 Common Vegetation Unit (CVU) data. Most covertypes have an abundance of intermediate stages, and a lack of early and mature stages. The acres of early HSS are expected to grow into intermediate HSS within the decade, if not already. There could be an emphasis on treating the intermediate lodgepole, either by regenerating to increase the amount of early HSS, or thinning to encourage mature HSS. Additional mature stages would also be desired, except in the ponderosa pine type where there is a surplus.

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Figure 3-2. Existing and desired forested structural stages for spruce-fir and lodgepole pine in the Clear Creek/Crazy Woman Creek Geographic Area.

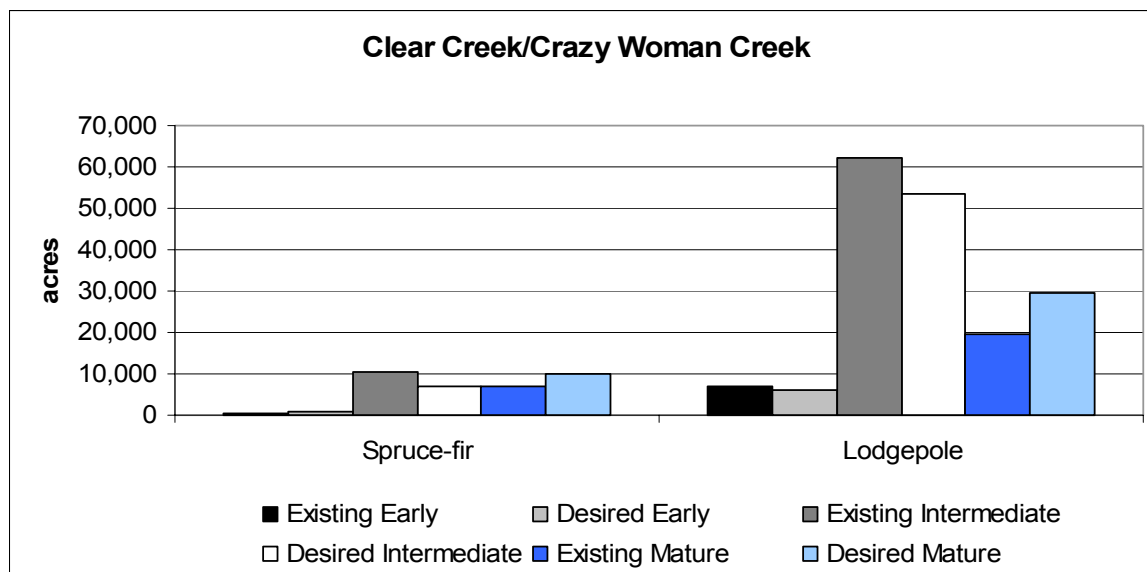
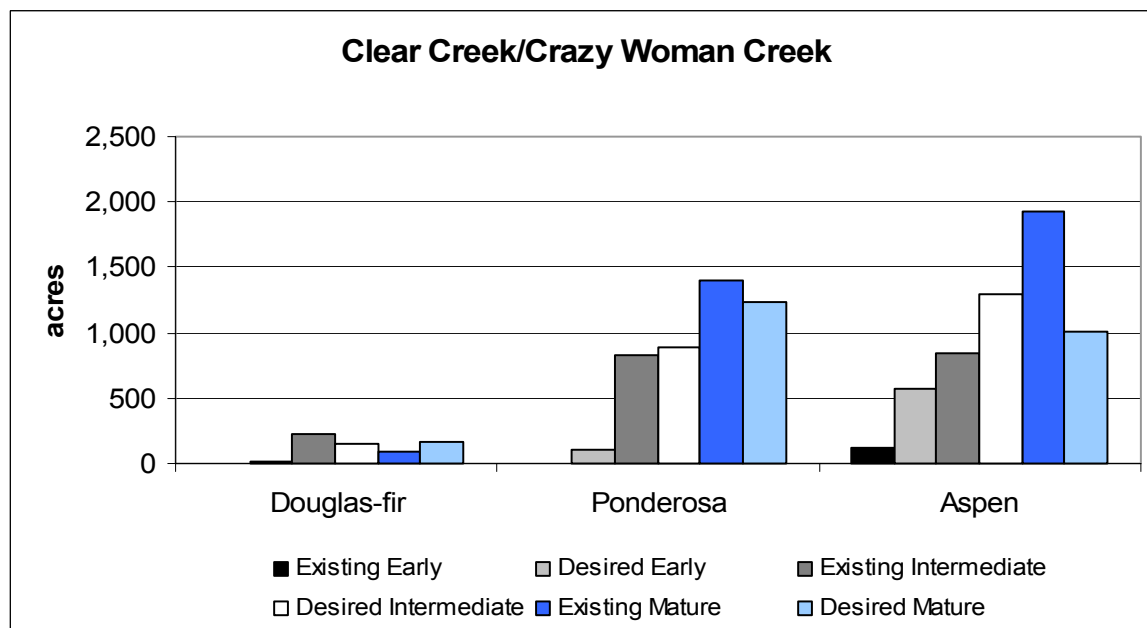
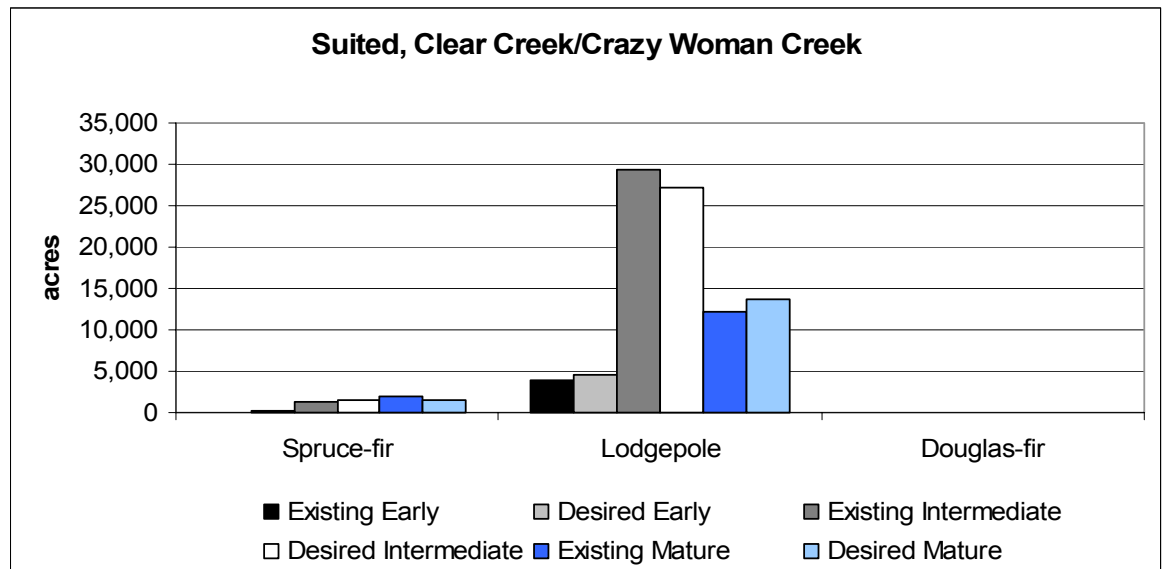


Figure 3-3. Existing and desired forested structural stages for Douglas-fir, ponderosa pine and aspen in the Clear Creek/Crazy Woman Creek Geographic Area.



**Lands Suitable for Timber Production:** Existing and desired suited structural stages for suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-4. Existing and desired suited structural stages in the Clear/Crazy Geographic Area



## Tensleep Creek Geographic Area

### Unique Features

A total of approximately 100,331 acres occur in this area, with all streams being tributary to the Big Horn River. Located in the southwest corner of the Forest and administered by the Powder River Ranger District, it is well roaded for motorized access purposes, with Highway 16 crossing through it. Historically, it has had some development in terms of road construction and timber harvest. The Leigh Creek Research Natural Area is a remote sedimentary canyon encompassing approximately 1,162 acres. A historical American Indian travel route occurs near the Meadowlark Lake area as well. The historic High Park fire lookout provides a scenic overlook of the area.

Unique features include the rock formations in Tensleep Canyon and Leigh Creek, viewed from Highway 16. Rock climbing has become a popular recreation use in the canyon. Scenic vistas into the Cloud Peak wilderness and several open parks along Highway 16 led to the designation of Highway 16 as a Scenic Byway. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. The area includes the most heavily used access point to the Cloud Peak Wilderness, the West Tensleep Lake trailhead. Meadowlark Lake is a highly used recreation destination within the area, along with several other campgrounds, picnic areas, and trailheads. The Meadowlark Lake and Deer Haven lodges provide commercial tourism destinations. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. The Big Horn ski area is one of two developed downhill ski areas on the Forest, and is located on Meadowlark Lake. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated along the West Tensleep road and near Meadowlark Lake. There are five private inholdings within the watershed, all largely undeveloped. Other private cabins occur in Tensleep Canyon and in Onion Gulch adjacent to the Forest, and the Nature Conservancy operates the Tensleep Preserve near the Forest as well.

Active timber sales continue within the area, primarily in lodgepole pine. Past clearcuts are being successfully regenerated and are providing vegetative diversity. The Meadowlark Fire and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process. The large die-off of trees in Tensleep Canyon is attributable to white pine blister rust occurring in the limber pine trees and to mortality from the Douglas-fir beetle and ponderosa pine mortality from mountain pine beetle. The geographic area has many shrubland and grass openings interspersed with forested stands.

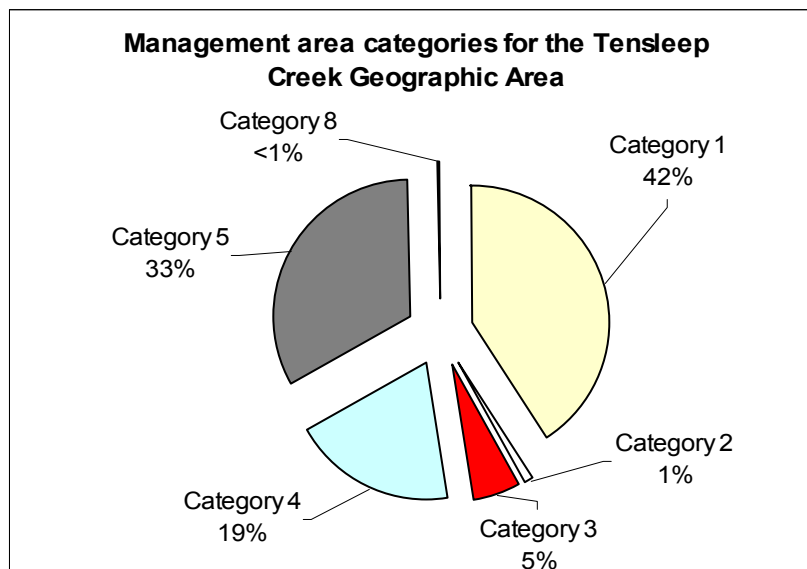
Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a noted component of the area on the western edge, and peregrine falcons have reestablished an aerie in the canyon. Fisheries are non-native and stocked in streams and mountain lakes. The Tensleep Fish

Hatchery, operated by the Wyoming Game and Fish Department, is located on NFS land near the Forest boundary in the canyon. Beaver are largely absent from the area. Sage grouse occur in the summer in several areas of the watershed.

Mineral developments have largely only been for gravel opportunities in support of Highway 16 construction/reconstruction. The Forest maintains the Tyrell work center along the West Tensleep road where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Tensleep Geographic Area are listed in the following figure.

Figure 3-5. Tensleep Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and non-motorized pursuits (e.g. motorized trails and wilderness). The area has been the subject of a holistic travel management review/plan. A nature/interpretive trail in the Sitting Bull area is a priority for enhancement.

Initial steps have been taken to develop a management plan which addresses climbing in the Tensleep Canyon and Leigh Creek Canyon areas. A comprehensive management plan will be developed to address issues associated with wilderness as well as developed and dispersed recreation associated with the West Tensleep and Meadowlark area, the most heavily used sites within this watershed.

Twenty seven percent of the Tensleep area is included in the Cloud Peak Wilderness. Adding inventoried roadless and designated wilderness, about 50% of the Tensleep area is undeveloped. Inventoried Roadless Areas (2005 Inventory) included in the Tensleep area are shown in the map in Appendix A of the Revised Plan. Minimal intrusions are

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anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale. The scenic byway continues to provide a high quality viewing experience.

Spur lengths have been expanded and defined user pads constructed in numerous campgrounds, particularly Leigh Creek, Tensleep, Bull Creek, Lakeview and Island Park. Master planning will consider both use and public demand in determining which developed facilities will continue to be operated.

Significant deviations are not anticipated from the existing ROS composition as defined in the 1998 inventory. Areas outside the Cloud Peak Wilderness will feature the semi-primitive motorized setting, and areas within the wilderness will be managed for a primitive or semi-primitive motorized setting.

Cross-country ski areas offer an enhanced network of easily accessible, nonmotorized winter experiences along the highway corridor.

**Wildlife:** For elk as MIS, the area contains minimal existing and potential elk security habitat, largely due to the un-forested landscape, and presence of well-used (Level 3) roads. Refer to Appendix A of the Revised Plan for the current levels. In the near future, the areas of the Meadowlark Fire will be considered security habitat once trees reach a sufficient height. Opportunities to improve elk security would be possible with most projects due to the current higher road densities that occur. The fringes of the Forest at lower elevations in Tensleep Canyon also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed, however none are a high priority due to a lack of abundant food sources and existing beaver. Some dam activity occurs in West Tensleep Creek, and in the Webb Creek area.

There are large areas of sagebrush for Brewer's sparrow, a priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. Douglas-fir old growth in the area provides unique habitat attributes. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The Tensleep geographic area is above the town of Tensleep, and encompasses about 158 mi<sup>2</sup> of the Tensleep Creek drainage, within the Forest boundary. Within the Tensleep Creek geographic area, and considering only the portion managed by the Bighorn National Forest, there is a relatively high density of level 2 roads (0.4 mi/mi<sup>2</sup>), compared to other geographic areas. This higher road density is expected to pose a greater

risk to watershed health than other road levels, through sedimentation, hydrologic connectivity, and drainage efficiency. There are also a larger number of stream crossings (1.5 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed. Project level planning and implementation are expected to reduce the impacts of roads and stream crossings within the geographic area.

Yellowstone cutthroat trout is the only native species expected to be found in the geographic area, although other native species may be transient visitors at the lower elevations near the Forest boundary. Native populations of cutthroat trout are not known to exist, but naturalized populations can be found in some streams and lakes. Opportunities have not been identified in this geographic area for active management of native species and no restoration or relocation efforts are expected. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescription areas. Areas anticipated to experience more epidemic levels of loss to insects and disease would include the wilderness, Tensleep Canyon with white pine blister rust (limber pine), and possibly the high elevation 1.32 areas adjoining the wilderness. Some suited areas, including Leigh Creek, may also have significant loss to beetle activity, primarily in Douglas-fir covertypes or in the Leigh Creek Research Natural Area (RNA).

Wildland fire use (WFU) would be encouraged in the wilderness, and likely in the 1.32 area near Powder River Pass that adjoins the wilderness. Due to the summer homes and recreation facilities along the West Tensleep road, the 1.32 area just east of this road corridor would not likely be a suitable site for this type of management. There would not likely be opportunities for WFU elsewhere in the watershed due to recreation and private developments, and existing timber stand investments. Direct and perimeter control are likely to be more appropriate responses to wildland fires elsewhere in the watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. WUI sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area had an old growth inventory accomplished in 2004. The



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Southwest Fuels project is implemented to help accomplish forested and non-forested desired vegetation objectives.

All covertypes have an abundance of intermediate stages and a lack of early and mature stages, especially in ponderosa pine and aspen. A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. There could be an emphasis on aspen and ponderosa treatment to create early HSS. Treatment in the non-suited conifer, such as limber and ponderosa, could emphasize treating intermediate HSS stands to create early HSS and development of mature HSS. However, since this data was collected, we know the limber pine has seen high mortality from white pine blister rust.

Figure 3-6. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Tensleep Geographic Area

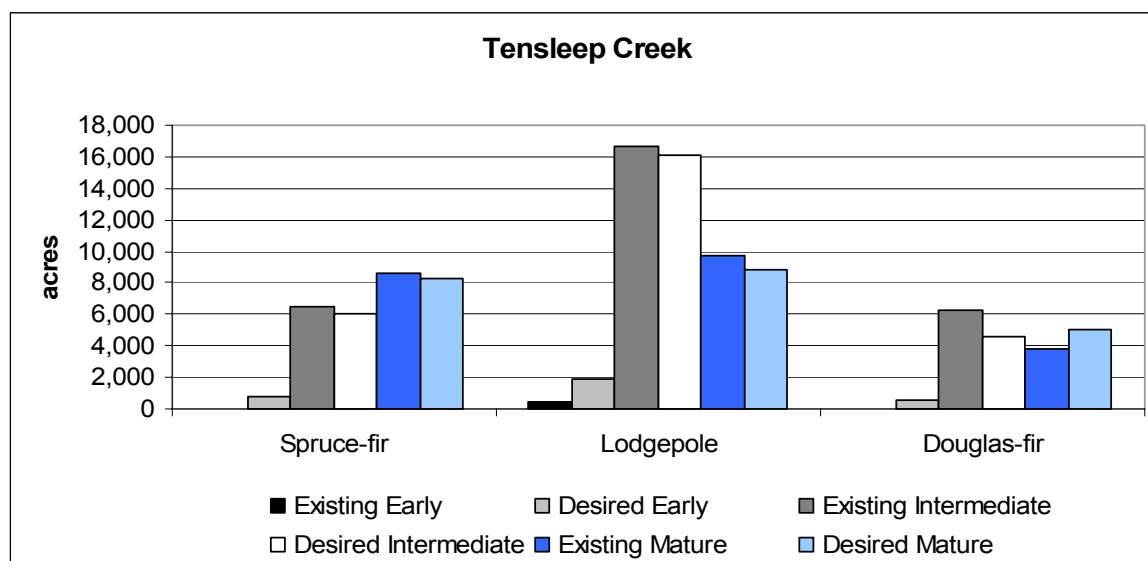
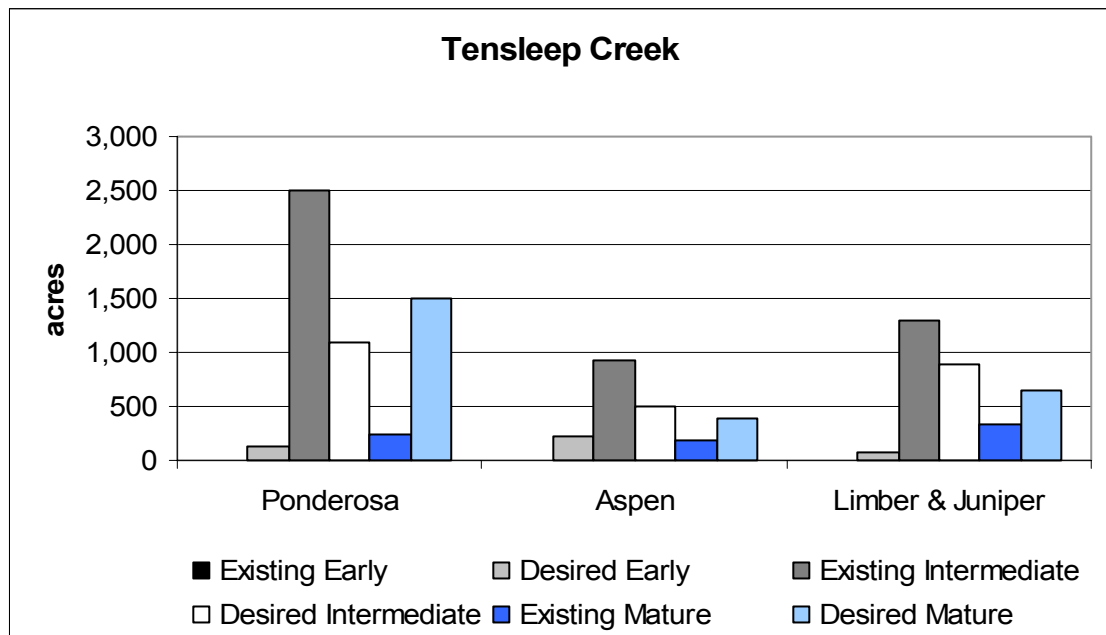
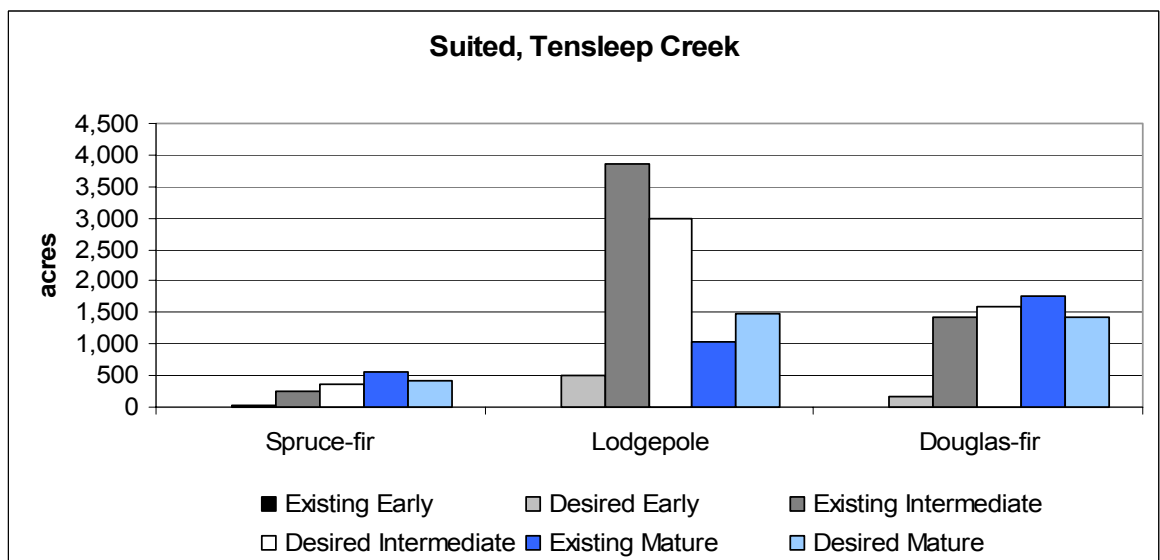


Figure 3-7. Existing and desired forested structural stages for ponderosa pine, aspen, and limber pine and juniper in the Tensleep Geographic Area



**Lands Suitable for Timber Production:** Existing and desired suited structural stages for suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-8. Existing and desired suited structural stages in the Tensleep Geographic Area



## Paintrock Creek Geographic Area

### Unique Features

A total of approximately 107,912 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located near the southwest corner of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is a more remote geographic area with no highways in it. Historically, it has had some development in terms of road construction and timber harvest, mainly near the Cold Springs and Paintrock Lakes area.

Unique features include the rock formations in Paintrock Canyon. Scenic vistas into the Cloud Peak wilderness and several open parks occur along access roads. Paintrock Lakes is a highly used recreation destination within the area, along with several other campgrounds, picnic areas, and trailheads. The Paintrock Lodge is also located in this area, providing commercial tourism opportunities. The Battle Park trailhead is a favored wilderness access point for horse riders. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Winter motorized and nonmotorized recreation opportunities are both sought in the area. There is one small private inholding within the watershed. Several concentrations of historical Native American archaeological sites occur within the Battle Park area.

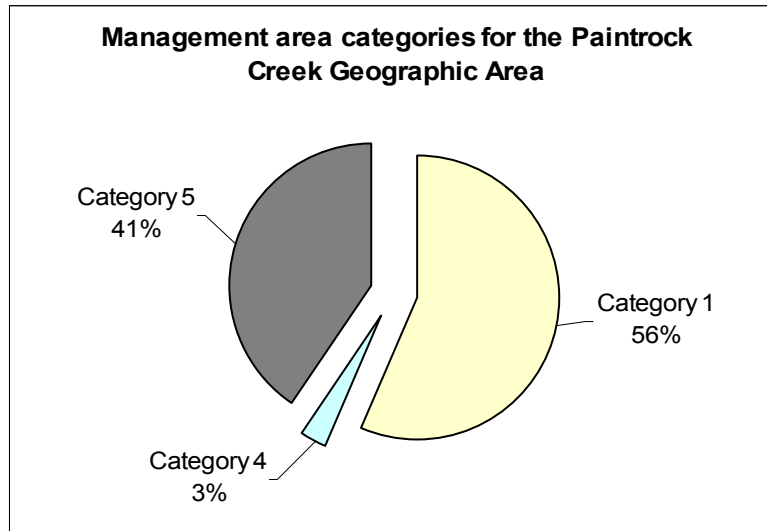
Timber harvest has played a minor role in this geographic area. Historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a minor secondary disturbance process. The geographic area has many shrubland and grass openings interspersed with 52% of the area that is forested.

Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. There are some larger aspen and willow communities unique to this area near Willow Swamp. Big game winter range is a small component of the area on the western edge. Fisheries are non-native and stocked in streams and mountain lakes, with some populations of Yellowstone cutthroat trout in South Fork Paintrock Creek, and Mill Creek. Beaver are largely absent from the area. Sage grouse are known to occur in some areas in the summer.

Mineral developments have largely only been for gravel opportunities in support of road construction and are very small in size. The Forest maintains a small guard station at Paintrock Lakes.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Paintrock Creek Geographic Area are listed in the following figure.

Figure 3-9. Paintrock Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities will continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g. motorized trails and wilderness.). The area continues to provide attractive dispersed recreation opportunities.

Significant deviations will not occur from the existing ROS composition as defined in the 1998 inventory. Areas outside of the Cloud Peak Wilderness will feature the semi-primitive motorized setting and areas within the Wilderness will be managed for a primitive or semi-primitive nonmotorized setting.

The Battle Park travel management decision will have been fully implemented. Trails in the northern portion of the Battle Park area would offer a semi-primitive nonmotorized experience; trails in the southern portion of the Battle Park area would offer motorized recreation opportunities. Trails leading out of the Battle Park area continue to be popular and remain a priority in terms of addressing use-associated maintenance issues. Trail 164, a nonmotorized route to Grace Lake, has been improved.

Battle Park continues to be a heavily used dispersed camping area and the Forest continues to address related resource impacts. Horse corrals and other amenities will be constructed at the Battle Park site to better segregate camping and horse use. Dispersed campsites in the vicinity will continue to be monitored and, if necessary, hardened or closed.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. In general, no new developed recreation

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facilities are anticipated to be constructed in this geographic area during the planning period. Some improvement projects are planned for existing developed recreation sites (Medicine Lodge campground, Lower and Upper Paintrock campground), but the overall settings should not noticeably change. The Cold Springs area will likely receive a toilet upgrade based on the high amount of dispersed camping that occurs in the vicinity. No significant trailhead projects are anticipated. The Longview Ranger station will be further stabilized and opportunities examined for use as a rental cabin.

The area continues to serve as a popular snowmobiling attraction, with focus on the existing system routes and the warming hut at Battle Park.

The existing scenic integrity was identified as part of the project record. There will be minimal deviations from this, and desired landscape character and focal points will be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale.

Minimal intrusions occur within inventoried roadless areas, except where suited management prescriptions occur for timber emphasis, as described in the FEIS. The Medicine Lodge area continues to be managed to retain its semi-primitive settings (as mapped in the 1998 ROS map).

**Wildlife:** For elk as MIS, the area contains existing and potential elk security habitat, particularly higher in the watershed near the wilderness boundary. Refer to Appendix A of the Revised Plan for the current levels. Opportunities to improve elk security are few due to the lower road densities and the more fragmented nature of forested areas. Extensive shrublands adjacent to the Forest boundary in the Buck Creek Vees area provide opportunities for active habitat enhancement for big game.

Suitable sites for beaver reintroduction occur in this watershed, however none are high priority due to a lack of abundant food sources and existing beaver. There are large areas of sagebrush for Brewer's sparrow, of priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 169 mi<sup>2</sup> of Forest Service lands in the Paint Rock and Medicine Lodge Creek drainages. Within these three drainages, the current level 2 road density is not a concern (0.3 mi/mi<sup>2</sup>), compared to other geographic areas, although there is a relatively higher number of stream crossings (1 x-ing/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed. Project level planning and implementation are expected to reduce the impacts of stream crossings within the geographic area.

Isolated remnant populations of Yellowstone cutthroat trout can be found throughout the geographic area, and some stream segments such as Mill Creek and Dry Medicine Lodge

Creek have been targeted for restoration efforts of the species through translocations, or elimination of competing species such as brook trout or rainbow trout. Mountain sucker are not known to exist in the geographic area, although it and other native species may be transient visitors at the lower elevations near the Forest boundary. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescription areas and in the 4.3 area surrounding Paintrock Lakes and Lodge. Areas expected to obtain more epidemic levels of loss to insects and disease would include the wilderness, the high elevation 1.32 areas adjoining the wilderness, and the 1.32 area in Medicine Lodge Creek.

Wildland fire use (WFU) would be encouraged in the wilderness, and possibly in the 1.32 areas adjoining it subject to limitations presented by the ability to adequately protect values and investments in the area. The 4.3 area surrounding the Paintrock Lakes area would not likely be appropriate to WFU due to existing investments. Due to the timber investments surrounding the Medicine Lodge 1.32 area, and its small size, this area may not be suitable for WFU. There would not likely be opportunities elsewhere in the watershed due to recreation and private developments, and existing timber stand investments. Direct and perimeter control are likely to be more appropriate responses wildland fires elsewhere in the watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of low priority for an old growth inventory due to minimal mechanical treatments.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. All covertypes have an abundance of intermediate and mature stages, and a lack of early stages. The biggest differences in early HSS are in aspen and lodgepole, and in intermediate HSS in limber and aspen.

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Figure 3-10. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Paintrock Geographic Area

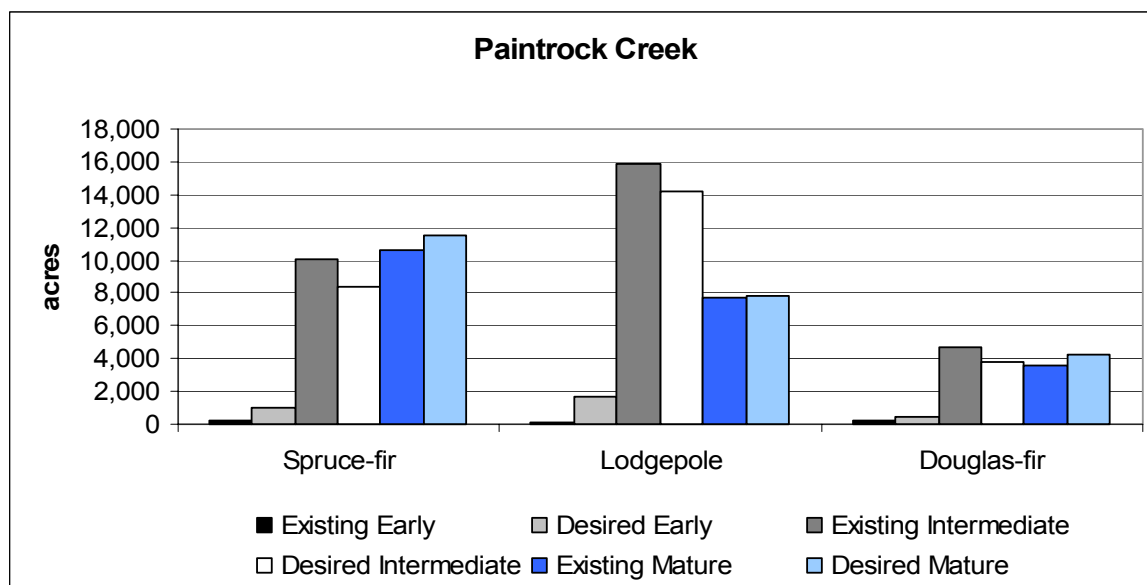
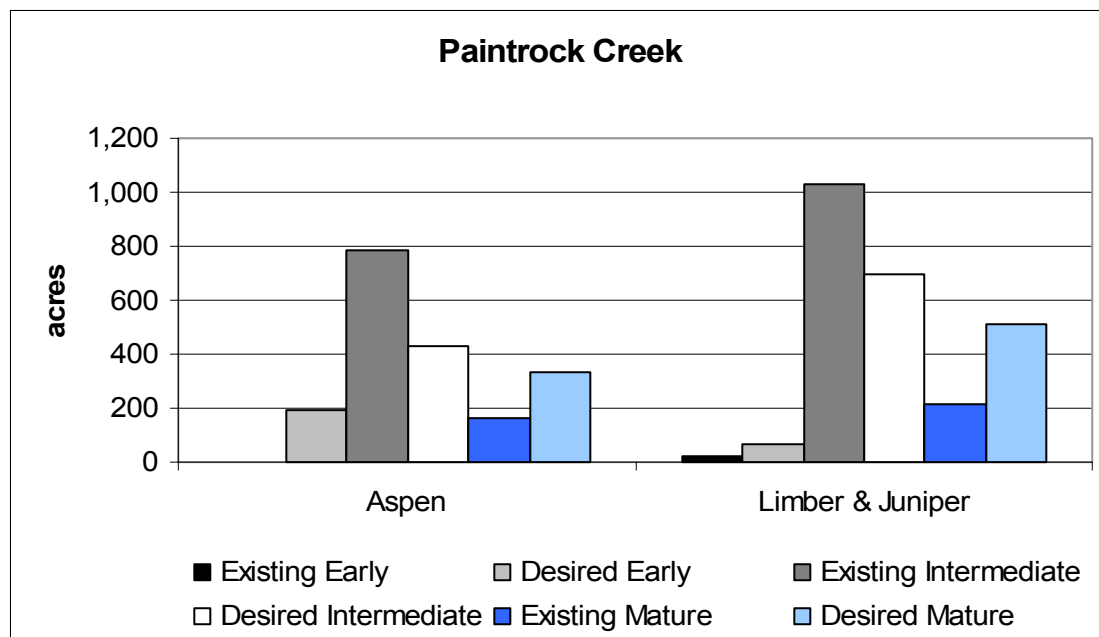
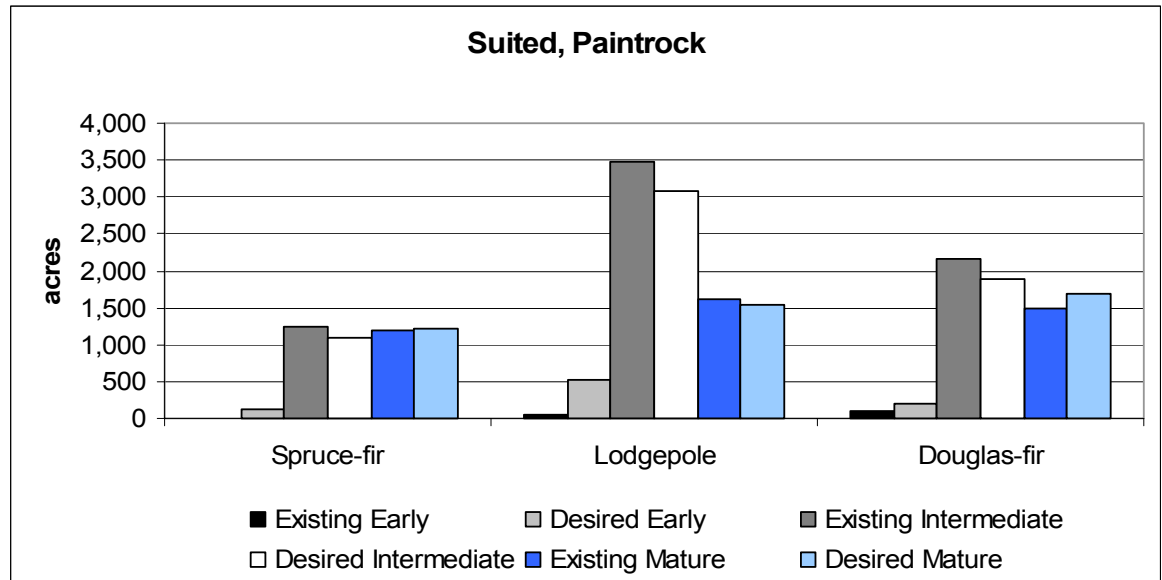


Figure 3-11. Existing and desired forested structural stages for aspen and limber pine and juniper in the Paintrock Geographic Area



**Lands Suitable for Timber Production:** Existing and desired suited structural stages for suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-12. Existing and desired suited structural stages in the Paintrock Geographic Area.





## Shell Creek Geographic Area

### Unique Features

A total of approximately 139,974 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located on the western flank of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is relatively well roaded for motorized access purposes as Highway 14 crosses through it. Historically, it has had some development in terms of road construction and timber harvest. Shell Creek canyon has remote areas, and includes the Shell Creek Research Natural Area (approximately 730 acres).

Unique features include the rock formations in Shell Canyon, viewed from Highway 14. The Shell Falls Visitor Center is a highly visited site due to the water falls and interpretive trail located adjacent to it. Scenic vistas in Shell Canyon and into the Cloud Peak wilderness and several open parks along Highway 14 lead to the designation of Highway 14 as a Scenic Byway. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Antelope Butte ski area provides the larger of two developed ski area opportunities on the Forest. The Ranger Creek and Snowshoe Pass lodges provide commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated along Shell Creek and near the Antelope Butte area. There is one private inholding (157 acres) within the watershed.

Active timber sales have been small in this watershed with only a few hundred acres of harvest in the past few decades. Due to insect (Douglas-fir beetle) related mortality, however, the Bench Project was initiated in Shell Canyon to treat approximately 1,000 acres of Douglas-fir. The Shell Canyon Fire and other historic fires have largely shaped the forested vegetation patterns within the area, with timber harvest comprising a secondary disturbance process. The geographic area has a nearly equal mix of forested and non-forested covertypes making it naturally diverse.

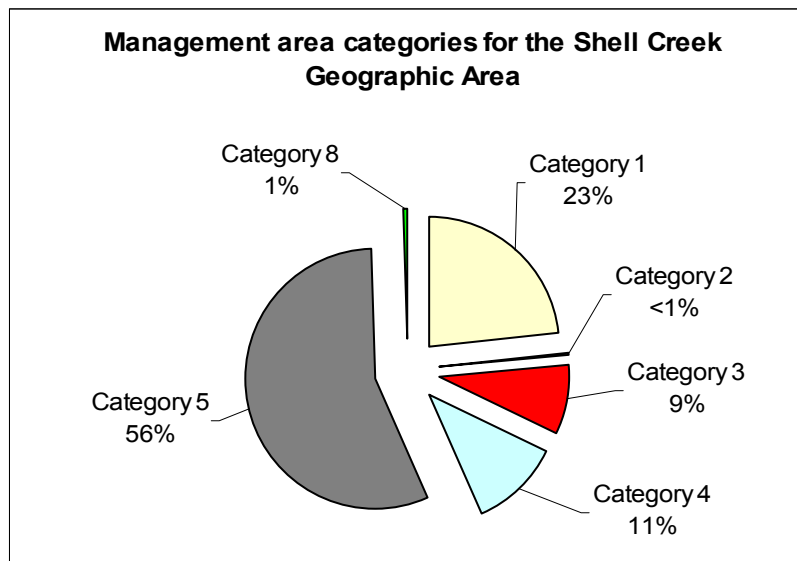
Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a noted component of the area on the western edge, and peregrine falcons have reestablished an aerie in Shell canyon. Fisheries are primarily non-native and stocked in streams and mountain lakes, with remnant populations of Yellowstone cutthroat trout in Cedar Creek. Beaver are largely absent from the area. There are still bighorn sheep in the area following reintroduction in the early 1990s; however, populations continue to decline due to a variety of factors. Bighorn sheep use high alpine summer range and migrate to the west edge of the Forest in the winter in this watershed. Sage grouse are also known to occur in the summer. Prescribed burns have been used to alter seral stages within Shell Canyon and sagebrush

dominated mesas within the area, although mature conditions in brush cover types continue to dominate the landscape.

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction. The Forest maintains the Shell Creek work center where summer crews are stationed.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Shell Creek Geographic Area are listed in the following figure.

Figure 3-13. Shell Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g., motorized trails and wilderness). The area continues to receive a moderate level of dispersed use. The Hunt Mountain travel management decision has been made and system routes have been designated, providing an appropriate network of motorized and nonmotorized travel opportunities for the area.

The Adelaide area trails accessing the Cloud Peak Wilderness have been reconstructed or rerouted as necessary to address maintenance/resource impact issues. The Bench trail project has been completed and offers improved opportunities for mountain bikers.

Eighteen percent of the Shell Creek area is included in the Cloud Peak Wilderness. Adding inventoried roadless and designated wilderness, about 65% of the Shell Creek area is undeveloped. Inventoried Roadless Areas (2005 Inventory) included in the Shell Creek area are shown in the map in Appendix A of the Revised Plan. Minimal intrusions are

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anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

Developed recreation facilities along the scenic byway and FDR 17 will continue to receive emphasis. Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. Ranger Creek campground and the associated Adelaide trailhead will be improved to better address demand and accessibility issues. The Shell Falls Visitor Center will be improved or upgraded, offering enhanced visitor / interpretive services. Innovative management options for the Shell Falls Visitor Center, as well as the other visitor centers on the Forest – including new partnership arrangements - have been explored and may possibly be implemented.

The Antelope Butte ski area continues to be operated. Implementation of the approved master development plan has been completed.

Dispersed camping continues to be moderately popular in the area, with an increased amount of use during the hunting season. The area around Shell Reservoir continues to be monitored from a use impact standpoint. Significant deviations are not anticipated from the existing summer ROS composition based on the 1998 inventory.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale. The scenic byway continues to provide a high quality viewing experience.

Maintaining a presence at the Shell Guard Station can provide visitor information services.

**Wildlife:** For elk as MIS, the area contains minimal existing and potential elk security habitat, due mostly to the naturally fragmented nature of forested cover in the watershed. Refer to Appendix A of the Revised Plan for the current levels. Opportunities to improve elk security are correspondingly few. Extensive shrublands on mesas and the steeper face along the Forest boundary provide opportunities for active habitat enhancement for big game. Maintaining reduced levels of conifer cover north of Highway 14 in Shell Canyon helps retain bighorn sheep migration corridors.

Suitable sites for beaver reintroduction occur in this watershed, however none are high priority due to a lack of abundant food sources and existing beaver. There are large areas of sagebrush for Brewer's sparrow, of priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 219 mi<sup>2</sup> of Forest Service lands in the Shell Creek drainages. Within these three drainages, there is a relatively high density of level 2 roads (0.6 mi/mi<sup>2</sup>), which are expected to pose a higher

risk to watershed health than other road levels, through sedimentation and hydrologic connectivity and drainage efficiency, but the number of stream crossings (0.8 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed, is relatively lower than other geographic areas. Project level planning and implementation are expected to reduce the impacts of roads within the geographic area.

Isolated remnant populations of Yellowstone cutthroat trout can be found throughout the geographic area. Mountain sucker are not known to exist in the geographic area, although it and other native species may be transient visitors at the lower elevations near the Forest boundary. Although the geographic area is within the identified historic range for Yellowstone cutthroat trout, no management actions have been identified for restoration of native species. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Municipal watersheds in this geographic area include sub-watersheds in the Shell Creek drainage, which supply the City of Shell (see map in Revised Plan Appendix A). Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Granite Creek is the only stream segment located in the geographic area, within the Forest boundary, that has been identified as impaired in the State 305(b) report or 303(d) list. Granite Creek has been identified as impaired, due to bacterial contamination. Efforts are being taken to address that issue and an improvement in water quality is expected during implementation of the Revised Plan.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescription areas, particularly around the Antelope Butte ski area. Areas expected to receive more epidemic levels of loss to insects and disease would include the wilderness and the high elevation 1.32 and 3.31 areas adjoining the wilderness, and the 5.41 winter range area due to inaccessibility.

Wildland fire use (WFU) would be encouraged in the wilderness, and possibly in the 1.32 and 3.31 areas adjoining it. The large 5.41 area may also be suited to this type of treatment, although upslope investments may complicate application, possibly making it infeasible. There would not likely be opportunities for WFU elsewhere in the watershed due to recreation and private developments, and timber stand investments. Direct and perimeter control are likely to be more appropriate responses to wildland fires elsewhere in the watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the

## GEOGRAPHIC AREAS

DFC in Chapter 1. This area is of low priority for an old growth inventory due to minimal mechanical treatments. Past regeneration treatments are also evident in larger stands of aspen in upper Shell Creek near the work center.

All covertypes have more intermediate stages than desired and a lack of early and mature stages. Some of the biggest differences are the lack of early HSS, especially in aspen, and more mature HSS than desired. A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. There could be an emphasis on aspen treatment to create early HSS. Treatment in the non-suited conifer, such as limber pine could emphasize treating intermediate HSS stands to create early HSS, and development of mature HSS. However, since this data was collected the limber pine has seen high mortality from white pine blister rust.

Figure 3-14. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Shell Creek Geographic Area.

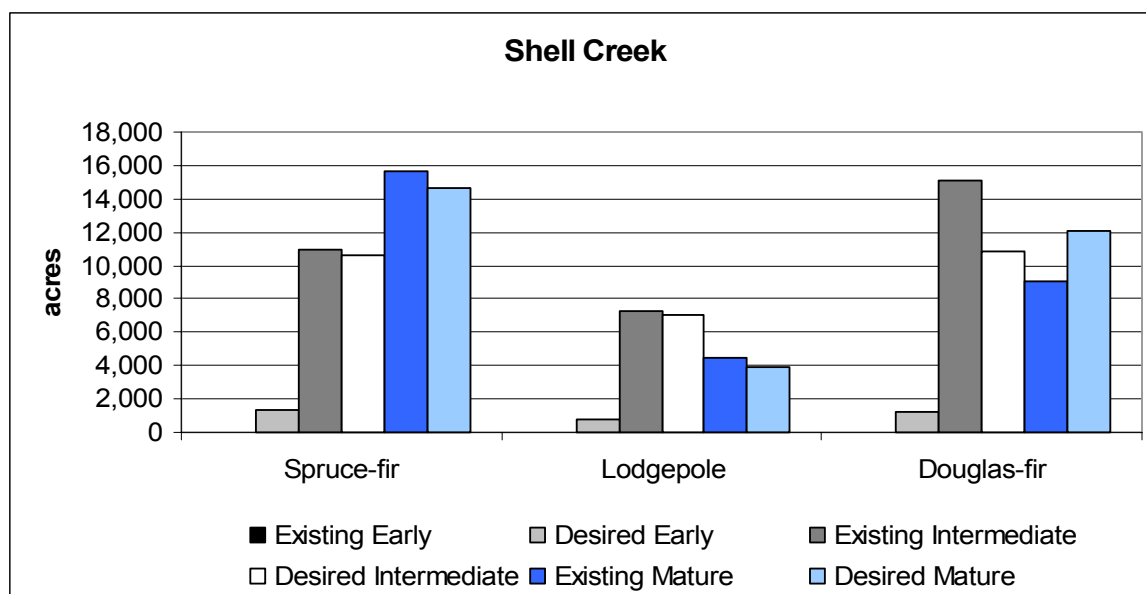
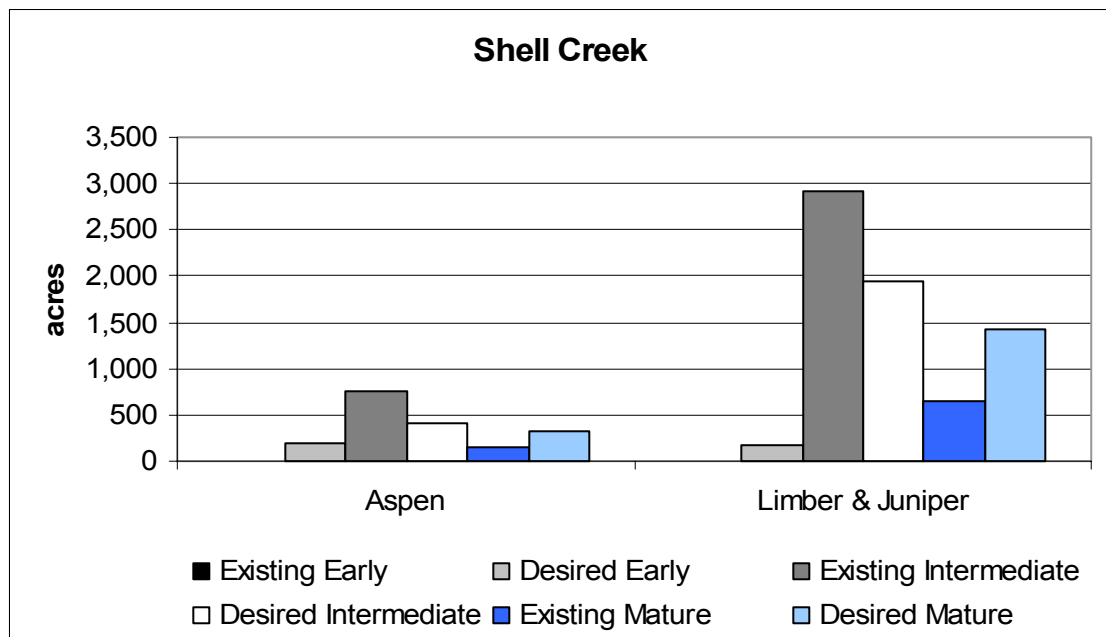
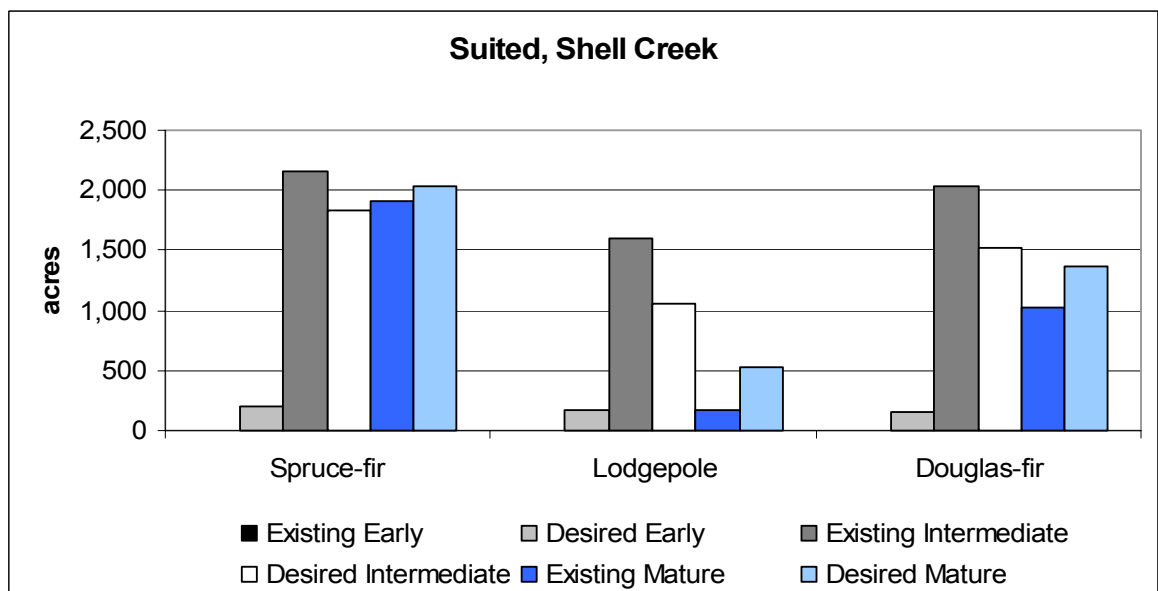


Figure 3-15. Existing and desired forested structural stages for aspen and limber pine and juniper in the Shell Creek Geographic Area.



**Lands Suitable for Timber Production:** Existing and desired suited structural stages for suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-16. Existing and desired suited structural stages in the Shell Creek Geographic Area.



## Devil Canyon Geographic Area

### Unique Features

A total of approximately 60,891 acres occur in this area, with all streams being tributary to the Big Horn River basin. Located on the northwest corner of the Forest and administered by the Medicine Wheel/Paintrock Ranger District, it is well roaded for motorized access purposes as Highway 14A crosses through it. Historically, it has had some development in terms of road construction and timber harvest. The most notable feature of the area is the Medicine Wheel archaeological and interpretive site, though several other archaeological sites also occur on other peaks in the area. Devil Canyon is a remote canyon with striking rock formations and two waterfalls, Porcupine Falls and Bucking Mule Falls. The Federal Aviation Administration (FAA) also maintains a radar station near the Medicine Wheel site.

Unique features include the Bucking Mule Falls National Recreation Trail. The scenic vistas and canyons have also led to the designation of Highway 14A as a scenic byway. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation is concentrated in many park areas within the watershed, particularly around the Porcupine Creek area. The Wyoming High Country Resort provides commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated near the Porcupine guard station. There are no private inholdings within the watershed; there is one state inholding of approximately 306 acres. A relatively high number of plant species of local concern occur in this geographic area due to the unique combination of high elevation and sedimentary substrate.

Timber sales have occurred in the area, primarily in lodgepole pine and spruce-fir. Past clearcuts have successfully regenerated to provide vegetative diversity. The Intermission Fire and other historic fires were important mechanisms for shaping the forested vegetation patterns within the area; timber harvest also contributed to the disturbance process in the geographic area. The geographic area has many shrubland and grass openings interspersed with forested stands.

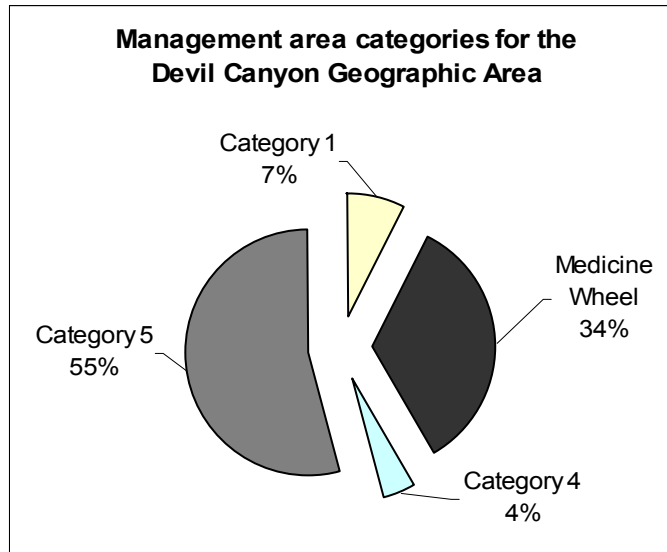
Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a small component of the area on the western edge. Most fisheries are non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in Deer Creek. Beaver are largely absent from the area.

Mineral developments have largely only been for gravel opportunities in support of Highway 14 construction/reconstruction. The Forest maintains the Porcupine work center where summer crews are stationed.

The Crow Indian Reservation is north of this geographic area.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Devil Canyon Geographic Area are listed in the following figure.

Figure 3-17. Devil Canyon management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits.

Bucking Mule National Recreation Trail continues to be a high priority for improvement projects on the southern portion of the trail (primarily consisting of reroutes to reduce grade, along with some reconstruction). Old Highway 14 has been signed and featured – offering improved nonmotorized recreation opportunities, possibly including parking facilities. High levels of winter recreation continue and the area is managed to provide for these opportunities.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. Developed recreation facility offerings in this area should not dramatically change during the planning period aside from improvements to the Porcupine Falls trailhead (site hardening, toilet facilities) and potential improvements associated with an entry portal on the highway similar to that found at Hospital Hill on Highway 16.

Implementation of the Medicine Wheel Historic Preservation Plan continues. Monitoring for resource impacts associated with dispersed camping continues.



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There is no designated wilderness in the Devils Canyon area. Forty-six percent of the area is in Inventoried Roadless Areas (2005 Inventory). Refer to Appendix A of the Revised Plan for a map. Minimal intrusions are anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale. The scenic byway continues to provide a high quality viewing experience.

During the life of the Plan, ROS composition (as defined by 1998 inventory) of the area remains unchanged aside from a possible shift towards a motorized emphasis in the Miller Bench / Mexican Hill area as a result of the need to meet additional access demands from the recent Devil Canyon land exchange with the Bureau of Land Management.

**Wildlife:** For elk as MIS, the area contains some existing and potential elk security habitat. Refer to Appendix A of the Revised Plan for the current levels and map. In the near future, the areas of the Intermission Fire will be considered security habitat once trees reach a sufficient height. Opportunities to improve elk security would be possible with most projects due to the current higher road densities that occur, particularly in the 5.4 area. The Horse Creek area has been of key concern regarding management to benefit elk distribution. The fringes of the Forest at lower elevations also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed. Some dam activity occurs in Porcupine Creek. There are large areas of sagebrush for Brewer's sparrow, of priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 96 mi<sup>2</sup> of Forest Service lands in the Porcupine, Deer Creek drainages and other small tributaries to the Bighorn River. Within these three drainages, there is a relatively low density of level 2 roads (0.4 mi/mi<sup>2</sup>). Though there are fewer level 2 roads comparatively, they pose a higher risk to watershed health than other road levels, through sedimentation and hydrologic connectivity and drainage efficiency. There are also a lower number of stream crossings (0.9 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed.

Isolated remnant population of Yellowstone cutthroat trout can be found throughout the geographic area. Some stream segments, such as Porcupine Creek, have been targeted for restoration efforts of the species through translocations, elimination of competing species such as brook trout or rainbow trout, or a combination of both. Mountain sucker are not

known to exist in the geographic area, although it and other native species may be transient visitors at the lower elevations near the Forest boundary. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescriptions, with some exceptions in the larger 5.4 area. Areas anticipated to experience more epidemic levels of loss to insects and disease would include the 1.32 area on the Forest boundary and possibly areas within the Medicine Wheel management area and within the bottom of Devil Canyon.

Wildland fire use (WFU) would not likely be encouraged in most of this geographic area, although there may be some appropriate areas, specifically within the 1.32 and 5.4 management areas. There would not likely be opportunities for WFU elsewhere in the watershed due to recreation and private developments, and existing timber stand investments. Direct and perimeter control are likely to be most appropriate responses to wildland fires in the majority of the watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of low priority for an old growth inventory due to minimal mechanical treatments. Aspen is nearly non-existent in this geographic area as compared to others due to limiting geology/soils.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. There could be an emphasis on converting mature stands to early HSS. All covertypes have an abundance of intermediate and mature stages and a lack of early stages.

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Figure 3-18. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Devil Canyon Geographic Area.

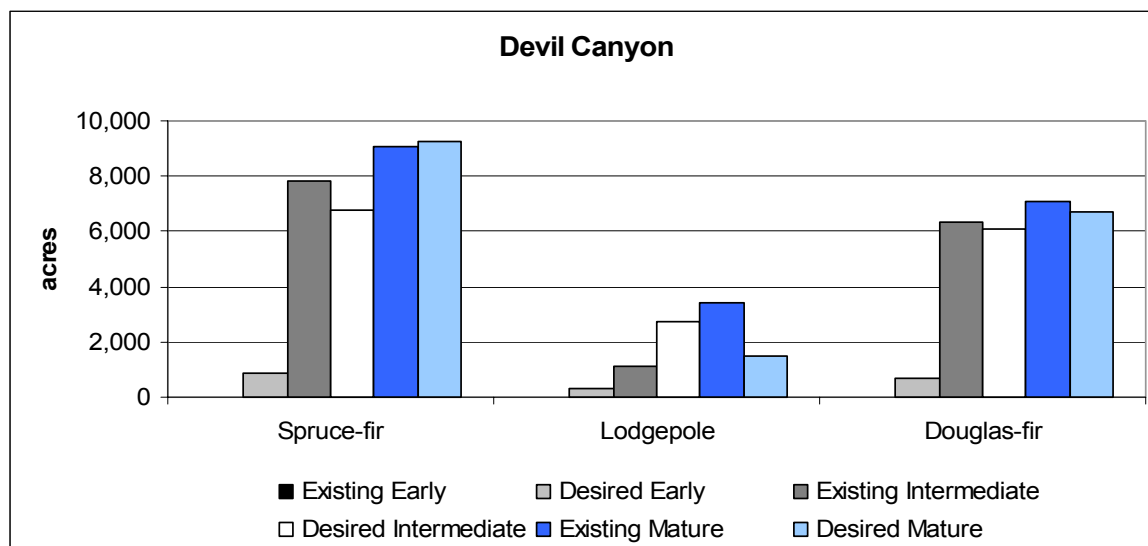
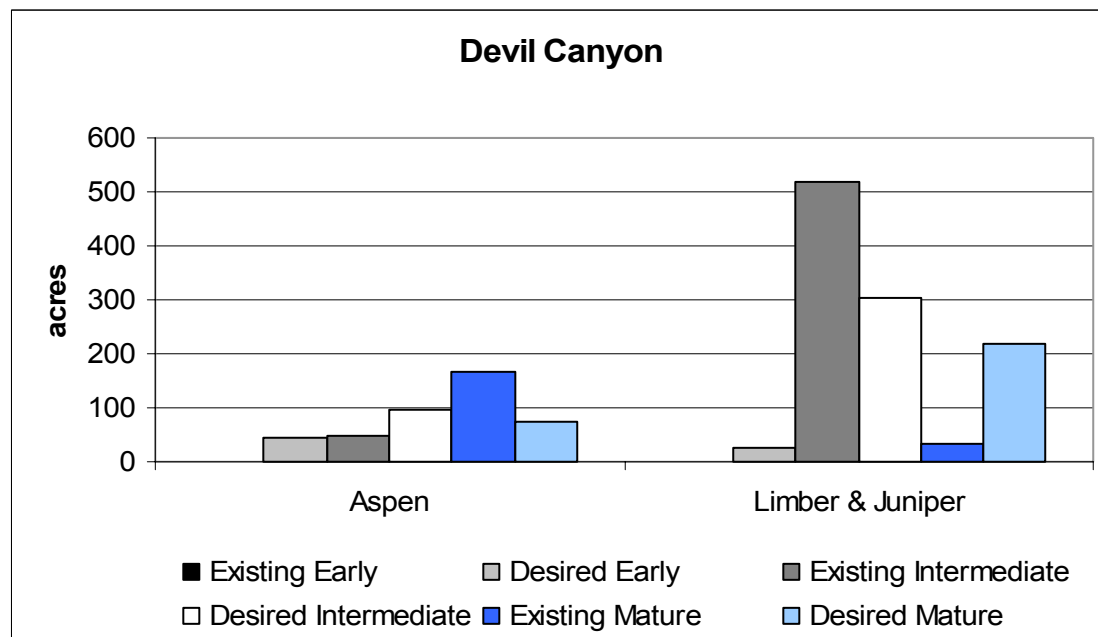
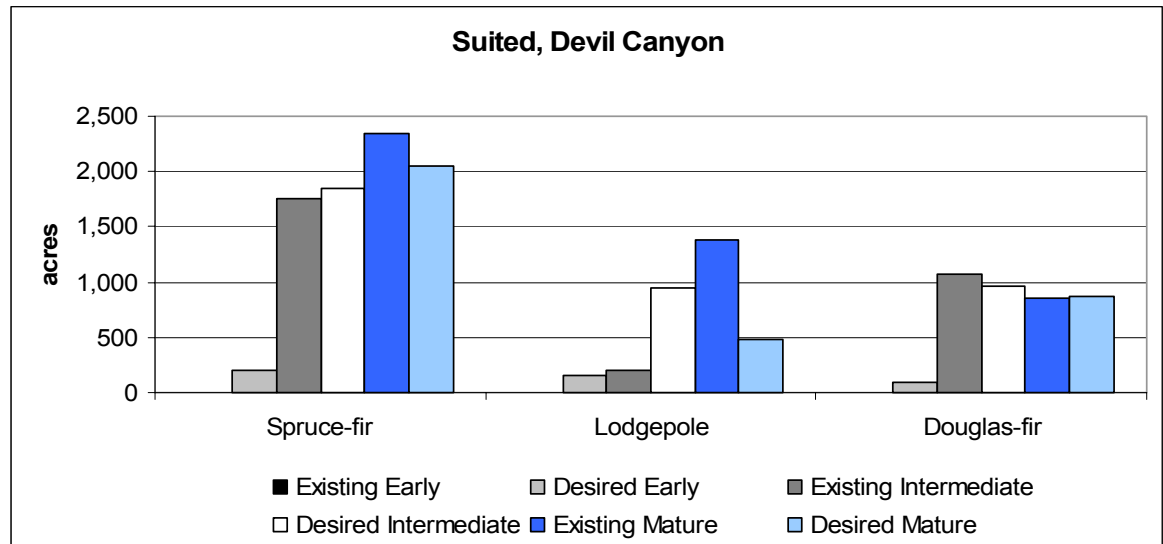


Figure 3-19. Existing and desired forested structural stages for aspen and limber pine and juniper in the Devil Canyon Geographic Area.



**Lands Suitable for Timber Production:** Existing and desired suited structural stages on suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-20. Existing and desired suited structural stages in the Devil Canyon Geographic Area



## Little Bighorn River Geographic Area

### Unique Features

There are approximately 141,815 acres in this area, with all streams being tributary to the Little Bighorn River. Located on the northeast corner of the Forest and administered by both the Medicine Wheel/Paintrock Ranger District and the Tongue Ranger District, it is mostly well roaded for motorized access purposes as Highway 14A crosses through it. Historically, it has had some development in terms of road construction and timber harvest, though only in headwater portions of watersheds. Little Bighorn River is a remote canyon with striking rock formations. There are two Research Natural Areas (RNAs) in this geographic area: Bull Elk Park RNA (720 acres) and the Mann Creek RNA (approximately 3,795 acres).

A unique feature is the Bald Mountain City historic site. The Forest Service nominated the Little Bighorn and Dry Fork Rivers for inclusion in the Wild and Scenic River system; however, Congress never acted on the proposed designation. Little Bighorn is one of the most primitive recreation areas on the Forest outside the Cloud Peak Wilderness. The scenic vistas and canyons have also lead to the designation of Highway 14A as a scenic byway. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. There are no commercial lodges in the area. Winter motorized and nonmotorized recreation opportunities are both sought in the area. Summer home cabins are concentrated near the mouth of the Little Bighorn River at the Forest boundary. There are no private inholdings within the watershed.

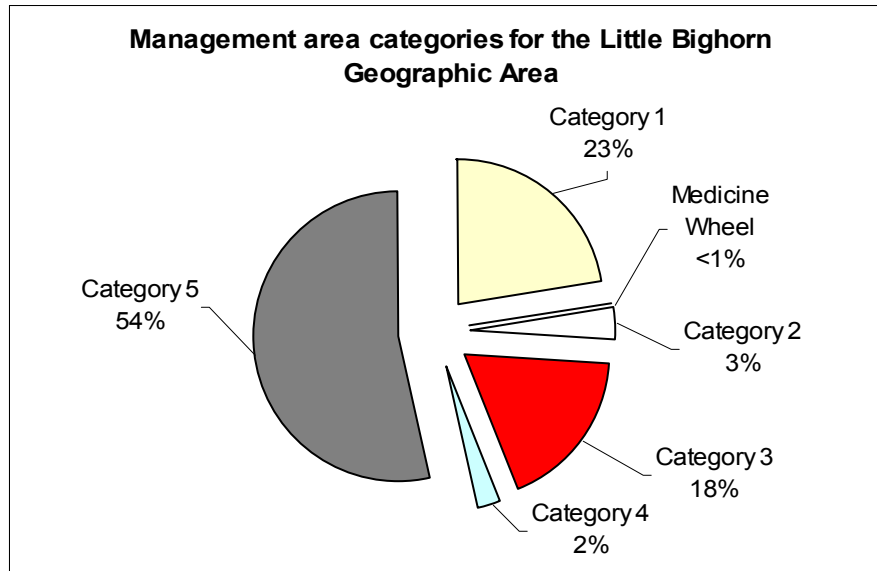
Timber harvest has been an important influence in the upper portion of the geographic area. Past clearcuts are successfully regenerating, providing vegetative diversity. Vegetation patterns in the area were shaped by fires in the early 1900s. The geographic area has many shrubland and grass openings interspersed with forested stands.

Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a small component of the area on the eastern edge, though the Kerns Big Game Winter Range (state land) adjoins the Forest and is managed for this purpose. Fisheries are primarily non-native and stocked in streams and mountain lakes, with populations of Yellowstone cutthroat trout in the Little Bighorn River. Beaver are largely absent from the area.

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction. The Crow Indian Reservation (in Montana) is north of this geographic area.

**Management Area Prescription Allocation** – The management area prescriptions applied to the Little Bighorn River Geographic Area are listed in the following figure.

Figure 3-21. Little Bighorn River management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits. The south and west portions would primarily offer motorized opportunities. Primitive backcountry experiences would be available in the north and east portions of the geographic area, primarily in the Little Bighorn canyon area.

FDR 15 remains a popular driving route along with associated activities of hunting and camping in the area. In the winter, it is a popular snowmobile route.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated although in general, it is anticipated that the current offering of developed facilities remains.

The highway corridor continues to offer a scenic driving experience.

There is no designated wilderness in this geographic area. Sixty-one percent of the area is in Inventoried Roadless (2005 Inventory). Refer to Appendix A of the Revised Plan for a map. Minimal intrusions are anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

Significant deviations are not anticipated from the existing summer ROS composition as defined by the 1998 inventory.

## GEOGRAPHIC AREAS

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale.

**Wildlife:** For elk as MIS, the area contains an abundance of existing and potential elk security habitat, largely due to the unroaded conditions and larger forested areas. Refer to Appendix A of the Revised Plan for the current levels and map. In the near future, the areas of the Intermission, Little Bighorn, and Pumpkin Creek Fires will be considered security habitat once trees reach a sufficient height. Opportunities to improve elk security would be lower with most projects due to the current low road densities that occur. The fringes of the Forest at lower elevations also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments. This should be particularly considered on NFS lands adjoining state lands and is being addressed in the Little Horn project.

Suitable sites for beaver reintroduction occur in this watershed, with at least one priority area in Half Ounce Creek. There are fewer areas of sagebrush for Brewer's sparrow compared to the west side of the Forest, making the area a lower priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 220 mi<sup>2</sup> of Forest Service lands in the Little Bighorn River and Lodge Grass Creek drainages. Within these three drainages, there is a relatively low density of level 2 roads (0.4 mi/mi<sup>2</sup>), as compared to the other geographic areas. There is also a lower number of stream crossings (0.7 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed.

Isolated remnant populations of Yellowstone cutthroat trout can be found throughout the geographic area, and some stream segments such as the West Fork of the Little Bighorn River have been targeted for restoration efforts. Mountain sucker are not known to exist in the geographic area, although it and other native species may be transient visitors at the lower elevations near the Forest boundary. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.

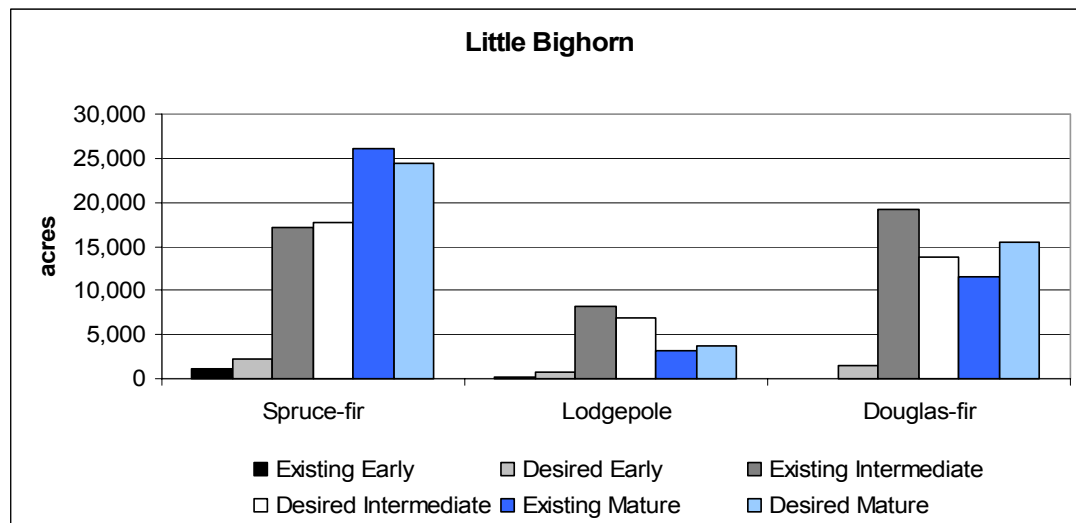
**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescription areas, with some exceptions in the larger 5.4 area. Areas anticipated as having more epidemic levels of loss to insects and disease would include the Category 1, 2, and 3 areas that predominate in the lower elevations of this geographic area.

Wildland fire use (WFU) would not likely be encouraged in the geographic area, as the higher elevations are comprised primarily of suited timber, and fires managed as wildland fire use lower in the watershed may be difficult to prevent from burning into these areas. Perimeter and direct control are likely to be more appropriate responses to wildland fires throughout this watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of low priority for an old growth inventory due to minimal mechanical treatments. Several larger aspen stands occur in the Dry Fork area, some of which have had regeneration treatments.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. The abundance of intermediate HSS is seen in the lodgepole pine, Douglas-fir, limber pine, and aspen, while the spruce-fir and ponderosa pine have more mature structural stages.

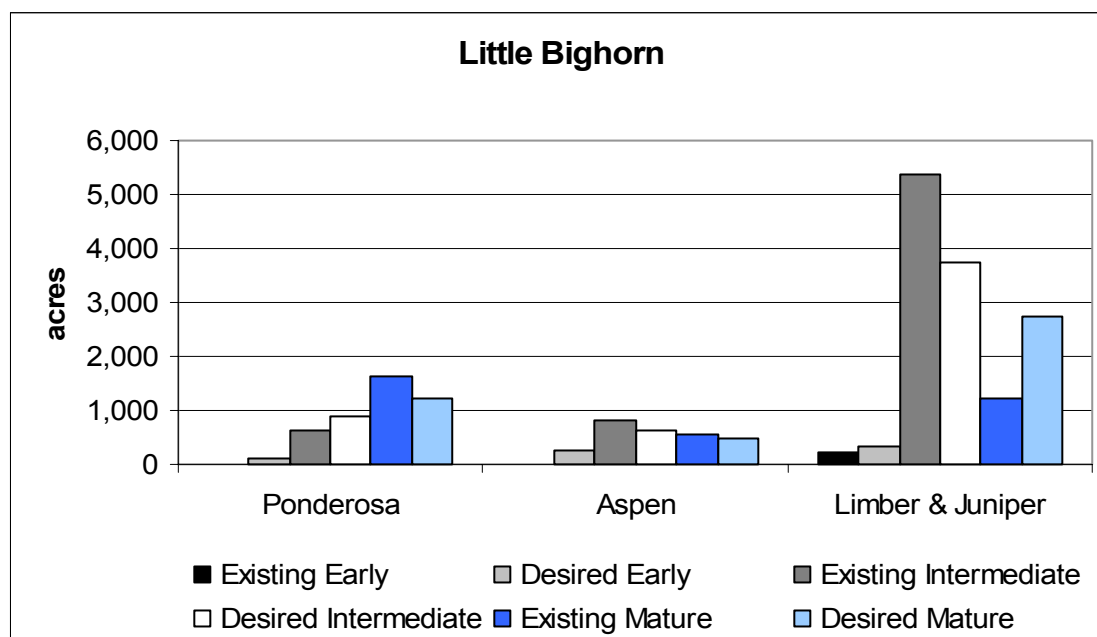
Figure 3-22. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Little Bighorn Geographic Area.





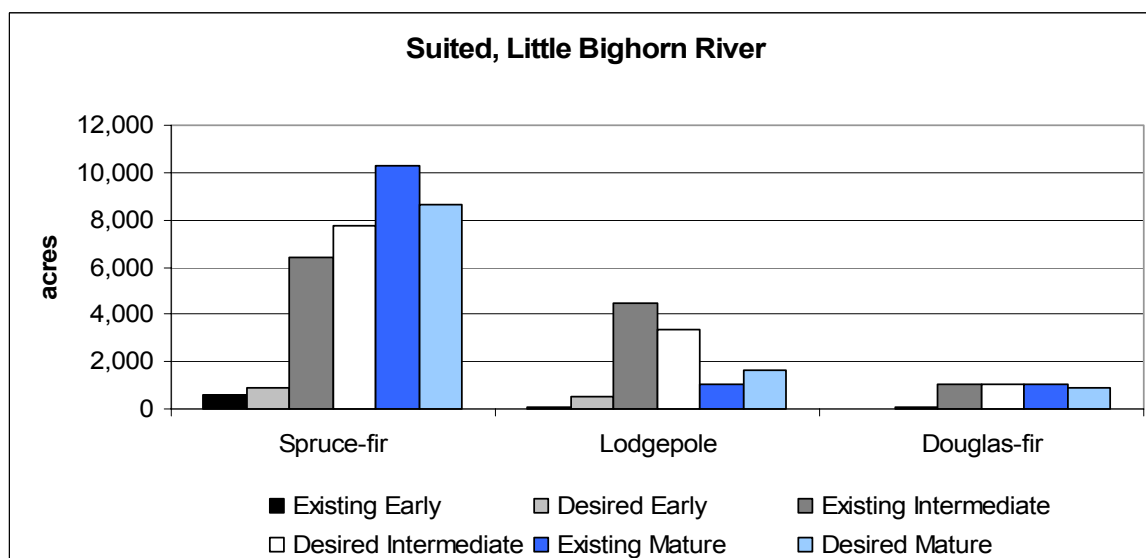
## GEOGRAPHIC AREAS

Figure 3-23. Existing and desired forested structural stages for ponderosa pine, aspen, and limber pine and juniper in the Little Bighorn Geographic Area.



**Lands Suitable for Timber Production:** Existing and desired suited structural stages on suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-24. Existing and desired suited structural stages in the Little Bighorn Geographic Area.



## **Tongue River Geographic Area**

### **Unique Features**

A total of approximately 174,300 acres occur in this area, with all streams being tributary to the Tongue River, later merging into the Yellowstone River. Located on the northeast flank of the Forest and administered by the Tongue Ranger District, it is well roaded for motorized access purposes as Highway 14 crosses through it. Historically, it has had considerable development in terms of road construction and timber harvest. Tongue River canyon is a popular recreation site with striking rock formations, including Steamboat Rock and Twin Buttes. The Burgess Visitor Center is a highly developed and visited destination site in the area. There are no Research Natural Areas within the area.

Unique features include the historic tie hacking sites and associated splash dams and flumes still intact in the watershed. The scenic vistas and canyons have also led to the designation of Highway 14 as a scenic byway. Sibley Lake is a popular recreation destination, and includes a popular cross-country ski trail system. There is no wilderness or wilderness access points in the area. Summer traffic volume becomes high as many visitors to the Yellowstone area select this route. Dispersed recreation, primarily camping, is concentrated in the many park areas within the watershed. Bear Lodge, Arrowhead Lodge, and Big Horn Mountain Lodge all provide commercial tourism opportunities. Winter motorized and non-motorized recreation opportunities are both sought in the area. Summer home cabins are concentrated in the Woodrock and Burgess Junction areas. One large private inholding occurs in the area near Burgess Junction. The historic Black Mountain fire lookout provides a unique vista opportunity for the area.

Active timber sales, primarily in lodgepole pine, continue within the area. Past clearcuts are successfully regenerating to provide vegetative diversity. Historic fires and timber harvest have largely shaped the forested vegetation patterns within the geographic area. The geographic area has many shrubland and grass openings interspersed with forested stands. Timber harvest is a larger component of the uses as compared to other watersheds.

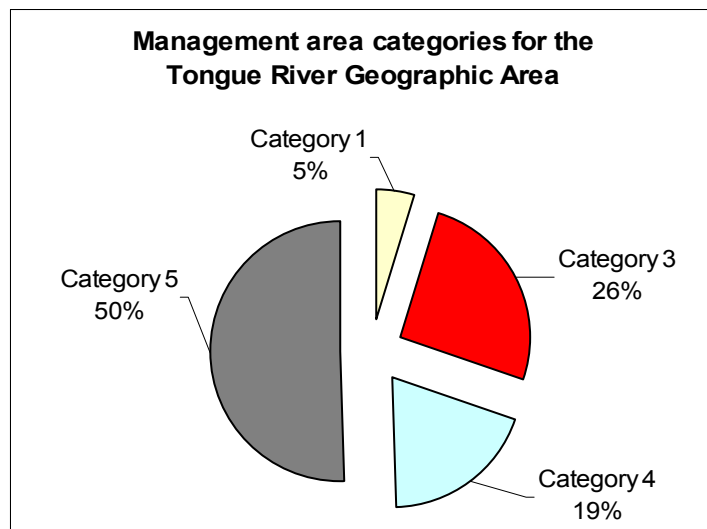
Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a small component of the area on the eastern edge, with the Amsden Big Game Winter Range (state land) occurring adjacent to the area, and is managed by the Wyoming Game and Fish Department. Fisheries are primarily non-native and stocked in streams and mountain lakes, with one population of Yellowstone cutthroat trout in the Tongue River. The Tongue River is a highly used recreational fishery. Beaver are present in the upper watershed areas.

Mineral developments have largely only been for gravel opportunities for Highway 14 construction/reconstruction. The Forest maintains the Burgess Ranger Station, and the smaller Woodrock Guard Station for summer crews. The Highway Department also has a large facility at Burgess Junction.

## GEOGRAPHIC AREAS

**Management Area Prescription Allocation** – The management area prescriptions applied to the Tongue River Geographic Area are listed in the following figure.

Figure 3-25. Tongue River management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits as well as recent travel management decisions (Woodrock project). Walker Prairie (which is split into this geographic area and the Goose Creek geographic area to the south) continues to provide a nonmotorized, backcountry experience. The Woodrock travel management decision has been implemented, offering additional motorized loop trail opportunities, and has addressed water quality concerns associated with the high level of dispersed camping in the area.

The highway corridor continues to offer a scenic driving experience. Additional interpretive opportunities may be offered in this area. A day hike trail offers easy hiking opportunities to travelers into areas off of the highway corridor.

The Burgess Visitor Center continues to be a popular tourist attraction. Innovative management options for the Burgess Visitor Center and other visitor centers have been explored and may be implemented, including new partnership arrangements -.

The Tongue River continues to be managed for retention of its outstanding remarkable values for Wild and Scenic River recommendation status and offers a dispersed recreation niche as well as world-class fishing opportunities. The nearby Turkey Creek drainage offers semi-primitive nonmotorized opportunities in the summer and winter.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale. The scenic byway continues to provide a high quality viewing experience.

There is no designated wilderness in the Tongue River geographic area. Forty-seven percent of the area is in Inventoried Roadless Areas (IRAs). Refer to Appendix A of the Revised Plan for a map. Minimal intrusions are anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

Significant deviations are not anticipated from the existing summer ROS composition as defined by the 1998 inventory.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. Numerous campgrounds have been upgraded (Dead Swede, Owen Creek, North Tongue) to accommodate modern recreational vehicles. Resorts continue to offer desired services for both highway travelers and local recreationists. They have been expanded to provide full service camping facilities (electrical hookups, etc.) and greater capacity for winter recreationists.

**Wildlife:** For elk as MIS, the area contains an abundance of existing and potential elk security habitat, largely due to the larger forested stands. Refer to Appendix A of the Revised Plan for the current levels and map. Opportunities to improve elk security would be high with most projects due to the current high road densities that occur. The fringes of the Forest at lower elevations also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed, with several priority sites high in the watershed, which have been the recent focus of reintroductions. There are fewer areas of sagebrush for Brewer's sparrow, ranking lower in priority for management for this type of habitat. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 276 mi<sup>2</sup> of Forest Service lands in the North and South Tongue River and Tongue River drainages. Within these three drainages, there is a relatively high density of level 2 roads (0.5 mi/mi<sup>2</sup>), which are expected to pose a higher risk to watershed health than other road levels, through sedimentation and hydrologic connectivity and drainage efficiency. There are also a larger number of stream crossings (1 x-ing/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed. Project level planning and implementation are expected to reduce the impacts of roads and stream crossings within the geographic area.

## GEOGRAPHIC AREAS

Naturalized populations of Yellowstone cutthroat trout can be found throughout the geographic area. Some stream segments, such as Bull Creek, have been targeted for restoration efforts of the species through habitat management efforts, restocking, and reconnecting isolated habitats resulting from stream crossings on Highway 14A. Mountain sucker occur in the South Tongue River. Other native species may be transient visitors at the lower elevations near the Forest boundary. No efforts have been identified for the restoration of native species other than cutthroat trout, although mountain sucker could benefit by implementation of standards and guidelines for other management activities. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Municipal watersheds in this geographic area include sub-watersheds in the North and South Tongue and Tongue River drainages, which supply the cities of Dayton and Ranchester (see map in Appendix A of the Revised Plan). Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. The North Tongue River is the only stream segment located in the geographic area, within the Forest boundary, that has been identified as impaired in the State 305(b) report or 303(d) list, due to bacterial contamination. Efforts are being taken to address that issue and an improvement in water quality is expected during implementation of the Revised Plan.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescriptions, with some exceptions in the larger 5.4 area. Areas anticipated to experience more epidemic levels of loss to insects and disease would include the Category 1, 2, and 3 areas. Some areas in the 3.5 prescription where they border suited timber may receive treatment should epidemic levels of insect and disease occur and appear likely to carry onto suited timber lands.

Wildland fire use would not likely be encouraged in the geographic area, as the higher elevations are comprised primarily of suited timber. Perimeter and direct control are likely to be more appropriate responses to wildland fires throughout this watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forestwide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of high priority for an old growth inventory due to mechanical treatments routinely occurring. Several larger aspen stands occur in the Twin Buttes area, some of which have had regeneration treatments.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. All covertypes have an abundance of intermediate stages, and a lack of early and mature stages.

Figure 3-26. Existing and desired forested structural stages for spruce-fir, lodgepole pine, and Douglas-fir in the Tongue River Geographic Area.

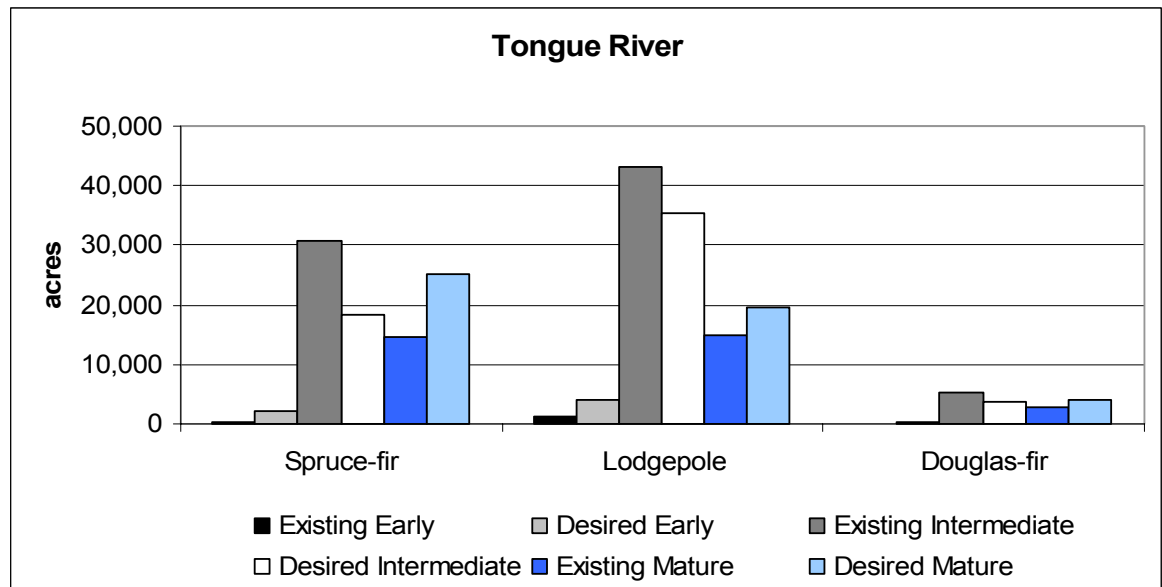
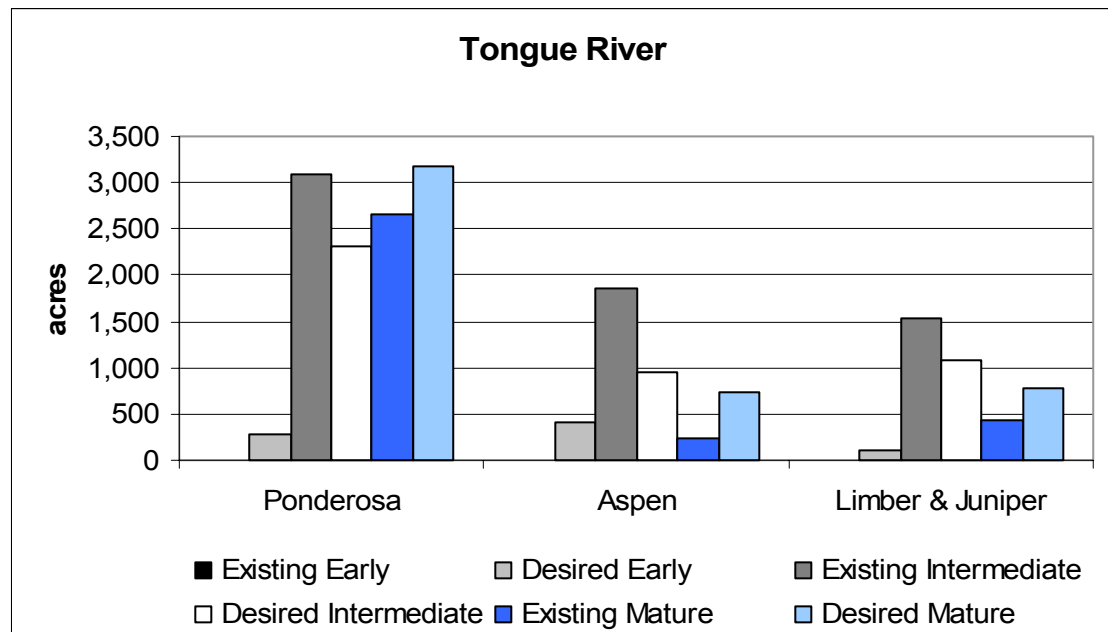


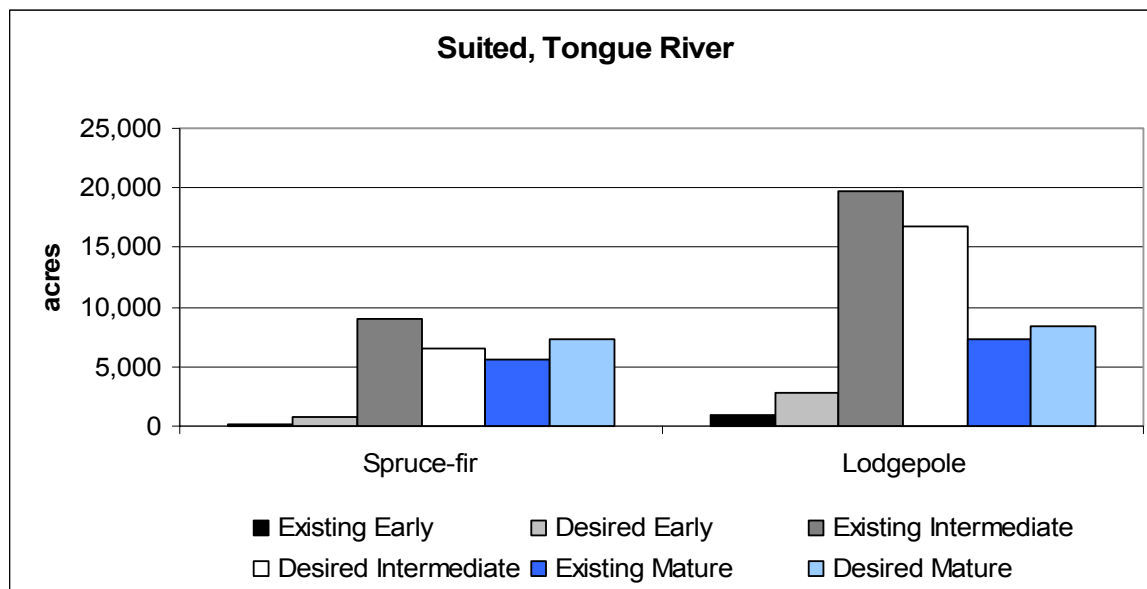
Figure 3-27. Existing and desired forested structural stages for ponderosa pine, aspen, and limber pine and juniper in the Tongue River Geographic Area.



## GEOGRAPHIC AREAS

**Lands Suitable for Timber Production:** Existing and desired suited structural stages on suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-28. Existing and desired suited structural stages in the Tongue River Geographic Area.



## Goose Creek Geographic Area

### Unique Features

Approximately 114,891 acres occur in this area, with all streams being tributary to the Goose Creek, later merging into the Tongue and Yellowstone Rivers. Located on the east flank of the Forest and administered by the Tongue Ranger District, it is well roaded for motorized access purposes, with the Red Grade Road (FR 26) crossing through it.

Scenic vistas and dispersed recreation are the main attractions to the area. A historic Native American trail occurs in the remote Walker Prairie area. Wilderness access includes the Coffeen Park trailhead. This area is a favorite among Sheridan area residents as a weekend destination, and numerous summer cabins occur both within and adjacent to the Forest. The Spear-O-Wigwam resort provides commercial tourism opportunities in the watershed. Winter motorized and nonmotorized recreation opportunities are both sought in the area. Motorized trails are highly used by ATVs in the Little Goose area, which has had previous travel management analysis. Private inholdings occur near Big Goose, at Dome Lake, and in the Bighorn reservoir areas. Private land with housing developments immediately adjacent to the Forest occurs in Little Goose Creek (Tepee).

Of cultural significance, a historically used trail crosses through the Walker Prairie area in this geographic area (see map in Appendix A of the Revised Plan).

Active timber sales continue within the area (Swamp timber sale), primarily in lodgepole pine. Past clearcuts are successfully regenerating to provide vegetative diversity. Historic fires and past timber harvest have largely shaped the forested vegetation patterns within the area. The geographic area is one of the most heavily forested on the Forest.

Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a small component of the area on the eastern edge. Fisheries are primarily non-native and stocked in streams and mountain lakes. Beaver are present in the upper watershed areas, though very limited. The Preacher Rock Bog (upstream of the Ranger Creek campground) was established as an enclosure for amphibian protection. The site currently has only sensitive plants; historically there may have been amphibians.

Mineral developments have largely only been for gravel opportunities in support of road construction/reconstruction.

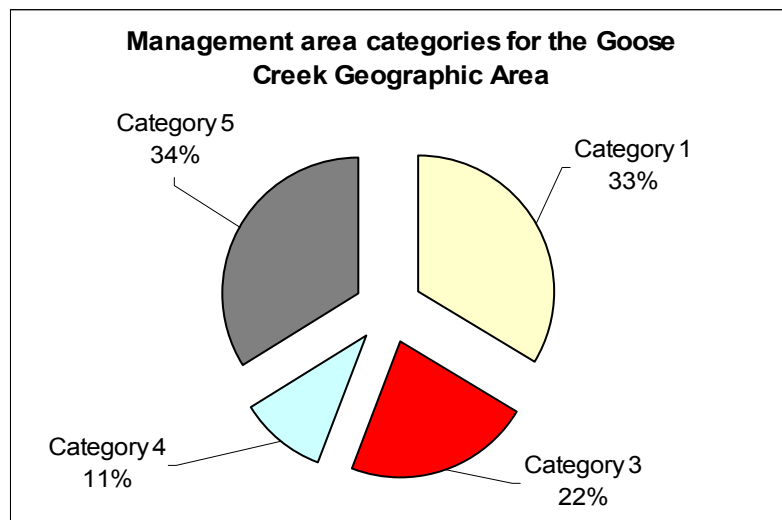
The Forest maintains the Big Goose guard station for summer crews.



## GEOGRAPHIC AREAS

**Management Area Prescription Allocation** – The management area prescriptions applied to the Goose Creek Geographic Area are shown in the following figure.

Figure 3-29. Goose Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g., motorized trails and wilderness). Prior and currently proposed travel management decisions (e.g., Little Goose EA) would continue to be implemented.

The Story-Penrose area network of motorized trails has been upgraded (FTRs 623, 624, 627, 28, 628, 86) to address maintenance concerns as well as resource impacts. The Walker Prairie trail network continues to provide a backcountry nonmotorized setting and is particularly popular during hunting season.

Red Grade Road remains a popular summer and winter access point from the Sheridan / Big Horn area.

Thirty-one percent of the Goose Creek area is included in the Cloud Peak Wilderness. Adding Inventoried Roadless Areas (42%) to wilderness, about 73% of the Goose Creek area is undeveloped. Refer to Appendix A of the Revised Plan for a map of the IRAs. Minimal intrusions are anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

Significant deviations are not anticipated from the existing summer ROS composition as defined by the 1998 inventory.

The Park Reservoir area in particular remains a popular dispersed camping destination, and has been managed for enhanced water quality through closure, hardening, or mitigation of dispersed campsites.

Cross Creek, Little Goose and Coffeen Park campgrounds are maintained to standard. Ranger Creek and East Fork campgrounds have been upgraded (primarily for accessibility and spur length). Coney Trailhead and Twin Lakes Picnic Ground have been addressed through the Facility Master Planning process to determine appropriate management direction according to their use levels.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project-specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale.

Visitor information services are provided at the Big Goose Guard station.

**Wildlife:** For elk as MIS, the area contains both existing and potential elk security habitat. Refer to Appendix A of the Revised Plan for the current levels and map. The Walker Prairie area provides the most extensive amounts of this type of habitat, and is a critical link to managing for elk distribution with adjoining private lands. Opportunities to improve elk security would be possible with most projects due to the current higher road densities that occur, and the 5.4 area in this watershed would be a prime site to enhance this type of habitat. The fringes of the Forest near Walker Prairie also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed, though not of highest priority for the Forest. There are only small areas of naturally occurring sagebrush for Brewer's sparrow, of minimal priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 183 mi<sup>2</sup> of Forest Service lands in the Big Goose and Little Goose Creek drainages. Within these three drainages, there is a relatively low density of level 2 roads (0.3 mi/mi<sup>2</sup>). Though there are fewer level 2 roads comparatively, they pose a higher risk to watershed health than other road levels, through sedimentation and hydrologic connectivity and drainage efficiency. There are also fewer stream crossings (0.6 x-ings/mi<sup>2</sup>), which are an index of potential sediment sources or barriers to the movement of aquatic organisms throughout a watershed, relative to other geographic areas.

## GEOGRAPHIC AREAS

Yellowstone cutthroat trout are expected to be found in the geographic area, as naturalized populations of stocked fish, although other native species may be transient visitors at the lower elevations near the Forest boundary. These drainages are within the identified historic range for Yellowstone cutthroat trout, although no opportunities have been identified for the management of native species. The geographic area provides many opportunities for recreational fishing for non-native desirable fish species and will continue to accommodate those activities into the future.

Municipal watersheds in this geographic area include sub-watersheds in the Big Goose Creek drainage, which supply the City of Sheridan and the Veteran's Administration Medical Center (see map in Appendix A of the Revised Plan). Twin Lakes Reservoir was constructed for the purpose of supplying drinking water and other reservoirs in the geographic area are used for irrigation purposes. Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.

**Disturbance Processes:** It is anticipated that insects and disease would be actively managed against in the suited management prescriptions. Areas anticipated to experience more epidemic levels of loss to insects and disease would include the wilderness, roadless, and areas lower in the watershed in the 3.5 management prescription. In MA 3.5 or other non-suited (but not wilderness) areas, it may be necessary to treat the perimeter to prevent epidemic occurrences in adjacent suited acres. These treatments are anticipated to be minimal.

Wildland Fire Use (WFO) may be considered in the wilderness and the 1.32 area providing the investments adjacent to these areas (e.g., Dome Lake, Park Reservoir, Bighorn Reservoir) could be protected. Continuity of fuels in this area may make the application of WFO infeasible due to the difficulty limiting fire spread and difficulty in protection of high value areas. Other investments adjacent to the Forest and those within the watershed (e.g. cabins, municipal watershed, prior timber investments), may make perimeter and direct control measures more appropriate responses to wildland fires within non wilderness areas of the watershed. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan, and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of high priority for an old growth inventory due to mechanical treatments routinely occurring. Specific opportunities may exist around the private land and summer home groups to reduce the fuels hazards, particularly the Dome Lake, Tepee, and Spear-O-Wigwam areas.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. All covertypes have an abundance of intermediate stages, and a lack of early and mature stages.

Figure 3-30. Existing and desired forested structural stages for spruce-fir and lodgepole pine in the Goose Creek Geographic Area

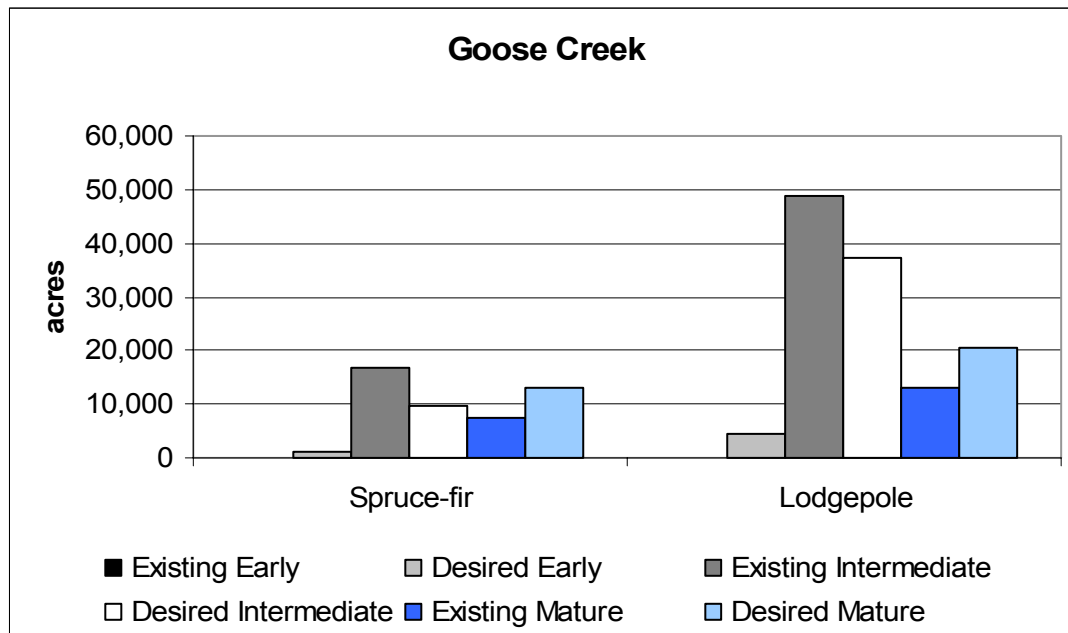
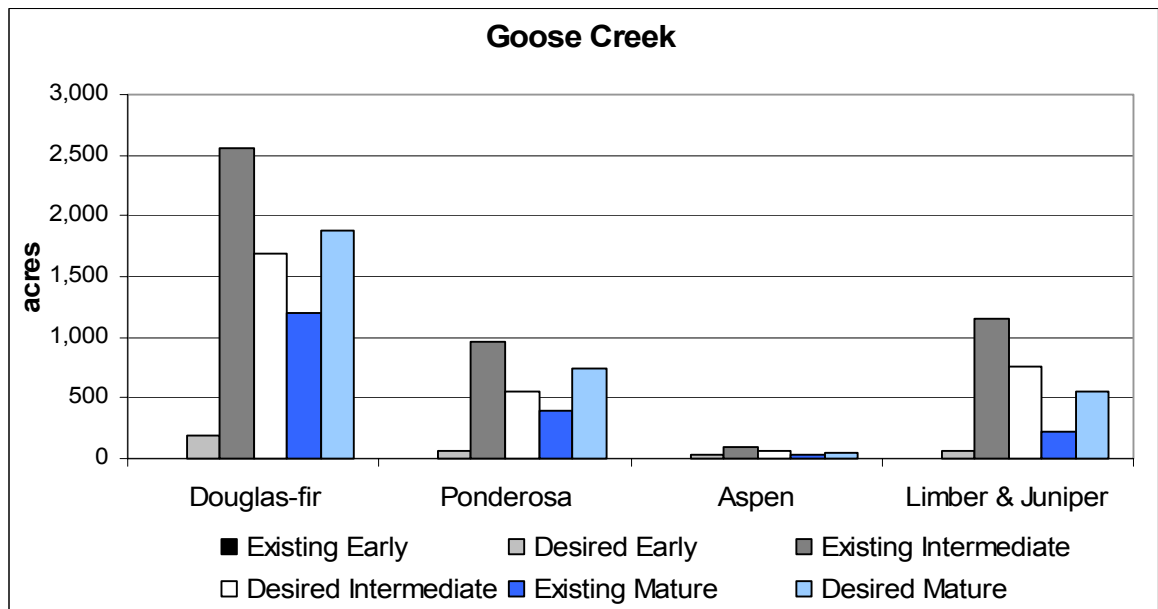


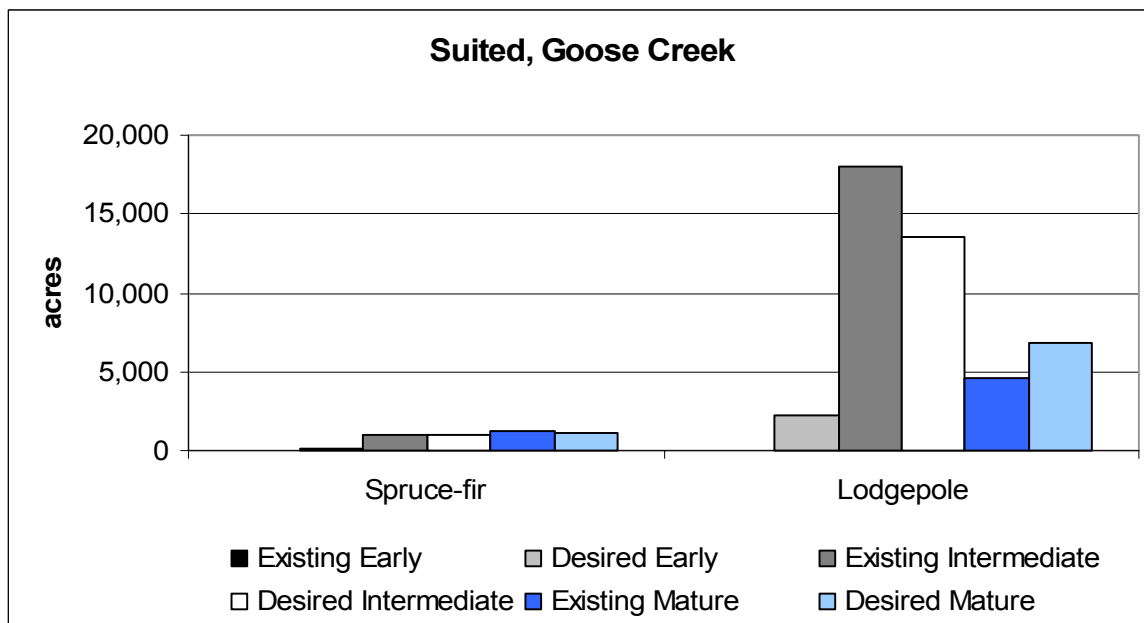
Figure 3-31. Existing and desired forested structural stages for Douglas-fir, ponderosa pine, aspen, and limber pine and juniper in the Goose Creek Geographic Area



## GEOGRAPHIC AREAS

**Lands Suitable for Timber Production:** Existing and desired suited structural stages on suited lands are displayed in the following figure. As described in Chapter 1 in the DFC section, these areas typically have more active management, so a more refined DFC was developed for the suited lands.

Figure 3-32. Existing and desired suited structural stages in the Goose Creek Geographic Area



## **Piney Creek / Rock Creek Geographic Area**

### **Unique Features**

A total of approximately 110,255 acres occur in this area, with all streams being tributary to the Powder River basin. Located on the east flank of the Forest and administered by both the Powder River and Tongue Ranger Districts, it is one of the least roaded geographic areas for motorized access purposes. This geographic area contains the Rock Creek recommended wilderness area.

Scenic vistas and backcountry, nonmotorized recreation are the main attractions to the area. Motorized access occurs through trails out of Story linking to other trails, ending at several reservoirs, including Willow Park and Kearney reservoirs used for irrigation water purposes. There are some motorized roads and trails in the south portion of the geographic area. Winter recreation is limited because the area is heavily forested, snowfall amounts are low, and there are no maintained trails. There are no commercial lodges in the area. There are no private inholdings. Some nonmotorized recreation use occurs through easements on the HF Bar ranch, and the North and South Piney Creek trails are heavily used.

There have been no timber sales within the area. Historic fires have largely shaped the forested vegetation patterns within the area. The geographic area has few shrubland and grass openings interspersed with forested stands, and this is the most forested (79%) of any geographic area.

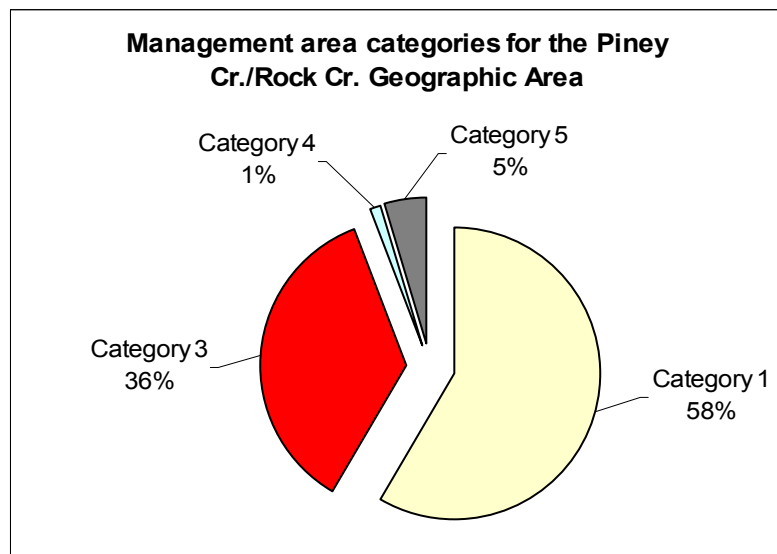
Livestock grazing occurs throughout the watershed, with management emphasis on maintaining and improving rangeland vegetation to meet desired conditions as described in allotment management plans. Big game winter range is a small component of the area on the eastern edge. The Bud Love Big Game Winter Range occurs adjacent to the Forest and is managed by the Wyoming Game and Fish Department. Fisheries are primarily non-native and stocked in streams and mountain lakes. Beaver are present in the upper watershed areas, though limited.

No mineral developments have occurred.

## GEOGRAPHIC AREAS

**Management Area Prescription Allocation** – The management area prescriptions applied to the Piney Creek/ Rock Creek Geographic Area are listed in the following figure.

Figure 3-33. Piney Creek/Rock Creek management area prescriptions.



Source: GIS (ARC/Info), allocation and geographic area layers

### Geographic Area Existing and Desired Condition

**Recreation:** Recreation opportunities would continue to be managed corresponding to past emphasis of both motorized and nonmotorized pursuits (e.g., motorized trails and wilderness). Prior and currently proposed travel management decisions (e.g., Little Goose EA) would continue to be implemented.

The majority of the area continues to offer a dispersed, backcountry emphasis; primitive and semi-primitive settings dominate during the winter and summer. The Rock Creek area remains an attraction for hikers and horseback riders seeking a primitive experience outside of the Cloud Peak Wilderness. Kearney Lake, Cloud Peak Reservoir, and Willow Park continue to be the most popular dispersed recreation areas in the watershed.

Twenty-eight percent of the Piney/Rock area is included in the Cloud Peak Wilderness. Adding Inventoried Roadless Areas (IRAs) and designated wilderness, about 97% of the area is undeveloped, the highest amount of any area on the Forest. Refer to Appendix A of the Revised Plan for a map of the IRAs. Minimal intrusions are anticipated in IRAs, except where suited management prescriptions occur for timber emphasis, as described in the FEIS.

Master planning will take into account both use and public demand to determine which developed facilities will continue to be operated. Over the short term, capital improvement

will continue to be minimal, based on the emphasized type of use that this area is intended to receive. Access from adjacent state and private lands is expected to continue to be limited.

The existing scenic integrity was identified as part of the project record. There would likely be minimal deviations from this, and desired landscape character and focal points would be identified associated with project specific planning. Opportunities for mitigating or improving impacts to scenery from past or proposed actions are identified at the project scale.

Significant deviations are not anticipated from the existing summer ROS composition as defined by the 1998 inventory.

**Wildlife:** For elk as MIS, the area contains the most extensive amounts of existing elk security habitat on the Forest, largely due to the unroaded and heavily forested condition. Refer to Appendix A of the Revised Plan for the current levels and map. Opportunities to improve elk security would be few due to the low road densities. The fringes of the Forest also provide winter range for big game, as per the Wyoming Game and Fish Department seasonal range map. These areas also provide opportunities for habitat enhancement through prescribed burning or other treatments.

Suitable sites for beaver reintroduction occur in this watershed, though not of highest priority for the Forest. There are only small areas of naturally occurring sagebrush for Brewer's sparrow, of minimal priority for management. Forested MIS (red squirrel, red-breasted nuthatch) would be suitably managed for under the forested vegetation objectives described below. The area lacks forested structural stage diversity perhaps more than any other on the Forest and would benefit from application of fire. With regards to TES and local concern species, refer to WYNDD and Fauna data for individual observations and surveys when conducting project-level analyses.

**Watershed/Aquatics:** The geographic area includes approximately 215 mi<sup>2</sup> of Forest Service lands in the Piney Creek and Rock Creek drainages. Compared to the other geographic areas, there is a minimal density of level 2 roads (0.1 mi/mi<sup>2</sup>) and the amount of stream crossings is negligible (0 crossings/mi<sup>2</sup>).

Yellowstone cutthroat trout are not expected to be found in the geographic area. These drainages are not within the identified historic range for Yellowstone cutthroat trout, and no additional actions have been identified for active management of other native species. Mountain sucker are known to inhabit Kearny Reservoir and other native species may be transient visitors at the lower elevations near the Forest boundary. The geographic area provides many opportunities for recreational fishing of non-native desirable fish species and will continue to accommodate those into the future.

Water quality will be maintained with the application of BMPs at the project level and specific issues related to water quality impairment will be addressed accordingly. Currently, there are no stream segments within the geographic area, within the Forest boundary, that have been identified as impaired in the State 305(b) report or 303(d) list.



## GEOGRAPHIC AREAS

**Disturbance Processes:** It is anticipated that insects and disease would not be actively managed against in the entire geographic area. Consequently all areas are anticipated to experience more epidemic levels of loss to insects and disease.

Although wildland fire use may be considered in the entire area, continuity of fuels to investments and high value areas may make application infeasible, particularly on the eastern boundary. Perimeter control and direct control may be more appropriate management responses to wildland fires as dictated by the ability to protect values and investments. Refer to the Appropriate Management Response map in Appendix A of the Revised Plan. Wildland Urban Interface (WUI) sites, of priority for protection and vegetation treatment, are displayed in the map in Appendix A of the Revised Plan, and in Community Wildfire Protection Plans developed by the County.

**Forested Vegetation:** Current and desired Habitat Structural Stages (HSS) of forested vegetation are displayed in the following charts for the primary forested covertypes. Forest-wide descriptions according to suited and non-suited lands were described in the DFC in Chapter 1. This area is of very low priority for an old growth inventory due to a lack of mechanical treatments routinely occurring.

A review of the forested vegetation data should be conducted in the design of future projects in this area. Data displayed is from 2002 CVU data. All covertypes have an abundance of intermediate stages, and a lack of early and mature stages.

Figure 3-34. Existing and desired forested structural stages for spruce-fir and lodgepole pine in the Piney/Rock Geographic Area

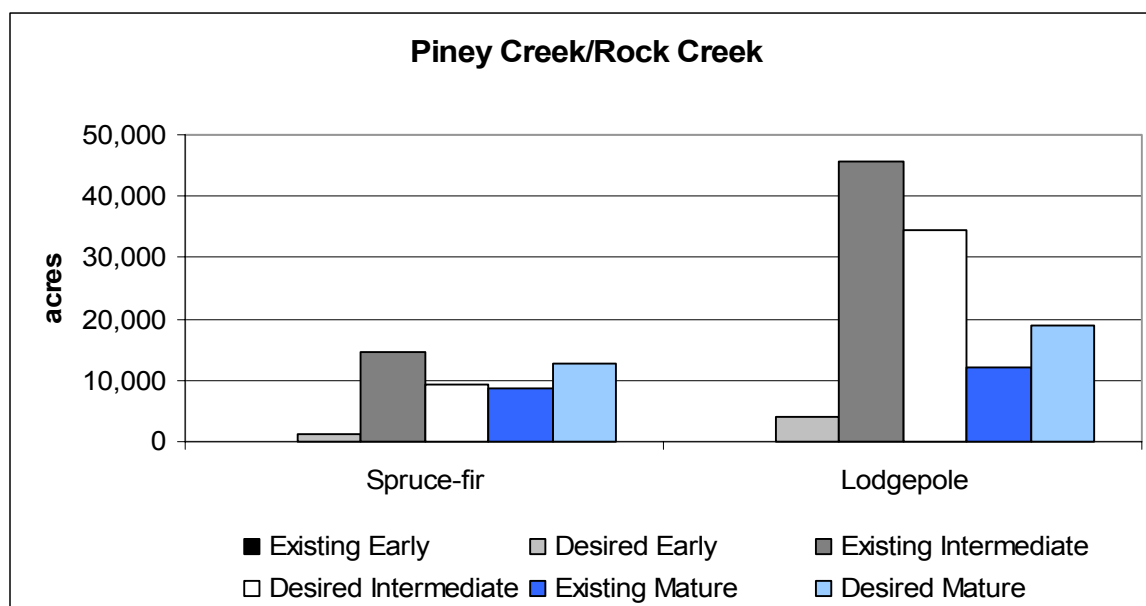
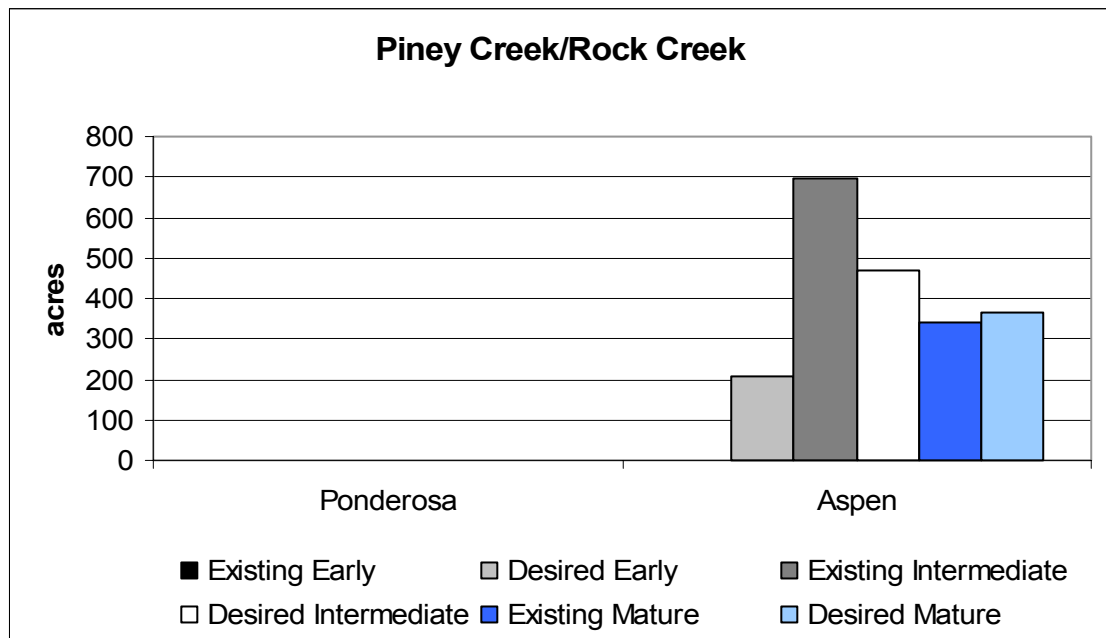


Figure 3-35. Existing and desired forested structural stages for ponderosa pine and aspen in the Piney/Rock Geographic Area



**Lands Suitable for Timber Production:** There are no lands in this geographic area designated suitable for timber production.